The Missenden Code of Practice for Ethics and Accountability

The Commercialisation of Research in Universities: an Ethical Intervention

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1 Introduction

1. Setting The Scene

"The demand that universities set themselves up to act in the market required them to act in a contra-academic manner, by seeking pecuniary gains rather than pursuing the truth disinterestedly." (Kogan and Hanney 2000:240)

"The first rule of research is that it would not be research if it was clear at the outset where it would lead. It is neglect of that rule which leads pharmaceutical companies to react with hostile surprise when research into which they have put funds fails to endorse the superiority of their product over others." (Evans 1999:61)

"Members should ensure that sponsors and/or funders appreciate the obligations that sociologists have not only to them, but also to society at large, research participants and professional colleagues and the sociological community."
(British Sociological Association 2002)

"With changes in age-old relationships in and outside the university and deep financial pressures, internal governance and trust are so disordered in many institutions that higher education is in danger of becoming just another modern machine grinding at the human soul." (Gaudiani 1996)

"There is necessarily a political role for universities. They are engaged in teaching citizens; they are engaged in research; they are preserving, expanding and disseminating knowledge. They are financed by citizens, by fees, by taxes. They cannot avoid being in politics since all these issues have political overtones. What citizens shall they teach? What shall they be taught? What research shall they foster? Is their funding more a private or a public responsibility? Determining such questions involves political considerations. The question is not whether there is a political role for universities, but what that role is" (Tarling in Craig (ed) 1998:68).

Universities have faced more changes in the last thirty years than they have in the previous three hundred. Their aspirations and culture have been transformed as they are dragged away both from the concept of knowledge for knowledge's sake towards research of an explicitly commercial nature and also from the liberal concept of scholarship towards an implementation of the political imperative to prepare students for the world of work. For many this involves a major shift in emphasis – greater interaction with business and better integration with the local community.

As they seek alternative partners in commerce, universities have to engage with a commercial culture. When applied to research this raises questions about traditions of academic autonomy, university employment practices, academic integrity, freedom of speech and the rights of scholars.

In recognising ten years ago the *"increasing concerns expressed by universities about the terms of research collaboration being sought by certain bodies and about the absence of authoritative and agreed guidance for universities"* the Committee of Vice Chancellors and Principals outlined their advice for universities undertaking collaboration with industry (CVCP 1992). While copies of the Report were forwarded to all UK University Registrars, no attempt seems to have been made to check whether the recommendations had been implemented or even to gauge their

impact. With notable exceptions most universities seem to have continued to arrange their industrial collaborations on an ad hoc and case-by-case basis.

There seems to have been reluctance amongst many academics and university managements to acknowledge the challenges they would face when collaborating with industry and commerce. In many research institutes, academics have to cost complex long-term projects, reach contractual agreements over intellectual property rights, deadlines and penalty clauses and then carry out the research, all without training or access to relevant experience or expertise. But gradually, as they have begun to realise that their own future is inextricably linked to collaboration with industry, many institutions have set up dedicated offices to deal with these industrial collaborations. Even with the establishment of Innovation Units, Science Parks and Business Liaison Divisions few seem to have given much systematic thought to some of the major ethical implications of this increased collaboration nor to whether all sources of funds are equally acceptable to all members of the institution and the community.

In what follows, I introduce the Code by outlining some of the areas in which I believe the commercialisation of research will have its greatest impact. I sketch a little of the background and indicate some potential pitfalls, some sources of help and some points I believe should be considered. I have offered some examples that have reached the press to illustrate each point in question. The resulting Code is made up of a number of suggestions that I hope will provide a contribution to addressing some of the most important issues.

In the first section I offer a short overview of the development of the concept of the university in the UK. In the second I focus briefly on the evolving education policies of UK governments. I address the changing concerns of those responsible for managing universities and I discuss the impact that this increased commercialisation has had on university structures and on the activities carried out in university departments. This section draws on interviews and questionnaire responses from over 35 university staff contacted in the course of preparing this report. (I have respected their wish to remain anonymous. Whether they requested this because of loyalty to their institutions or a well-founded fear of speaking out was not always clear.)

In the last section of Part 1 I recall some examples of what sometimes arises from lack of foresight and frankly bad practice. Finally, as Part 2, I present the Missenden Code – 14 suggestions that I hope will stimulate the creation of an agenda to help universities respond to the development of commercial funding of university research, and to its culture and goals.

2. The Idea of a University

"This I conceive to be the advantage of a seat of universal learning, considered as a place of education. An assemblage of learned men, zealous for their own sciences, and rivals of each other, are brought, by familiar intercourse and for the sake of intellectual peace, to adjust together the claims and relations of their respective subjects of investigation. They learn to respect, to consult, to aid each other." [1] (Newman)

Examination of the critical issues for the university in light of increased commercialisation has to be set against the changes that have occurred in its role in society and in the nation state. Nisbet perceives the university to be the last of *the great institutions formed during the Middle Ages; the last that is, to suffer in full sweep the kind of changes and buffets that earlier were the lot of the monastery, fief, guild and parish"* (Nisbet 1971:13). He argues that from the thirteenth to the twentieth century, the

university with its courts, senates and rectors, remained much the same in concept, structure and practice.

Emmanuel Kant, writing while Professor at the University of Konigsberg in the late 1700's, argued that the role of the university could be justified by an appeal to reason. For Kant the pursuit of knowledge and truth differentiated the academic from the doctors, clergy and judiciary who were taught in the university and went on to be employed in directly furthering the aims of the state. Philosophy underpinned these subjects and it was the universities' role to ensure that philosophy flourished so that theology, law and medicine thrived and the nation prospered while the scholar enjoyed complete academic freedom.

For the German Idealists the university had a role to play as a country's unifying force. Culture was the sum total of all that was to be learned plus the cultivation of an upstanding character. This cultivation was referred to as Bildung. In the university the accumulation of knowledge and cultivation of character were ascribed to research and teaching respectively. The university, for the Idealists, was a unique place where these two purposes are inseparable.

Humboldt who was partly responsible for the founding of the University of Berlin saw the relationship between the state and the university as one where the state must *"protect the spiritual resources of the university (in both their power and diversity) and its freedom of action, by means of the individuals which it appoints to the University"* (Readings 1999:68). The university for John Henry Newman was where a person could gain a liberal, utility free education. It was learning for its own sake, not with some other goal, such as gaining power or wealth, in mind. True university education was use-less. It was an education that *"refuses to be informed by an end or constrained to necessity"* (in Carson 1999).[2]

When Woodrow Wilson, as President of Princeton University defined the role of his university as *"Princeton in the nation's service"* (Nisbet 1971: 34), he merely articulated what many of his generation assumed was its proper relationship to the nation. Readings uses the analogy of a national airline subsidised by the state to illustrate this relationship. There are two reasons for government subsidies: one to highlight the technological (intellectual) development of a country and the second to ensure that all parts of the country could be reached without the airlines having to make decisions based purely on economic grounds (students from poorer backgrounds being educated). According to Readings, both the case of the airline and the university could be viewed as a massive subsidy for the middle and upper middle classes.

In return for government support, the university offered a service to the country. Nisbet argues however that this service was indirect, that it prepared students for *"places in the social order where unusual skill or learning is required"* (Nisbet 1974:128) while remaining as aloof as possible from commerce and industry. While Althusser viewed the university as part of the Ideological State Apparatus, where *"the student's pedagogical identity is predetermined to fulfil the instrumental ends of economic and state survival"* (Barnett 1994:92), Readings thinks this no longer applies. Although it prepares its students for service in the cause of industry and business, it is now itself *"an autonomous bureaucratic corporation"* (Readings 1999:40).

2 The Contemporary Triangle

1. Developments in Government Policy

"We recommend: to the Government that it considers establishing a modest fund to provide equity funding to institutions to support members of staff or students in taking forward business ideas developed in the institution, and to support the creation of incubator units" (Dearing 1997)

The foundation of the economy of all developed countries now rests on the triangle of industry, academia and government. The university is integral to the economic and social well being of both country and region as it invests, teaches students and conducts research. Its currencies are skills and knowledge. As Sir Richard Sykes, Rector of Imperial College, puts it: *"Today's economy is about intellectual assets, it's not about tangible assets – who cares about buildings any more or crates of stuff, it's all about intellectual capital."* [3]

Like every commercial product, information *"may or may not be costly to obtain, but its economic value lies in its scarcity, that is, in the monopoly of information"* (Melody 1997:98). Thus the danger of commercialising research is that it will encourage the withholding rather than the dissemination of knowledge.

At the start of the 20th century one third of Britain's undergraduate population was at Oxford or Cambridge. The years following the Second World War witnessed growth in the demand for post secondary education in the UK. 1963–1975 saw a substantial expansion of Higher Education with the formation of a public sector of HE and the creation of 30 polytechnics. The university system expanded from an elite structure with a 5 per cent (of 18–24 year olds) participation rate in 1960 to a medium-sized system (14 per cent participation rate) by the late 1980s, and to a mass system with a participation rate of about 33% by 2000 (Guardian 9/10/2001). In the latter years, that expansion came with no parallel increase in university income per student so that in 1995, total spending on higher education was still only 0.7 per cent of GDP, under half the OECD average. So alternative sources of finance needed to be explored.

The post Robbins expansion was not initially matched by increased integration with industry. Henkel offers a variety of reasons for this ranging from academic snobbery to a failure of industry to invest adequately in the sciences. But from the 1970's onwards various policies such as the Teaching Company Scheme and The Collaborative Awards For Science and Engineering (CASE) were devised by government to harness academia to commercial agendas and to encourage strategic research – *"research from which application might eventually be expected although it could not be predicted"* (Henkel 2000:44). This type of research would encourage the exchange of finance, resources, and information and, in some cases, personnel.

Under the Conservative Government of the early eighties there was *"support for direct instrumentalism in research policies"* (Henkel 2000:44) with the result that market friendly research was the only show in town. The Government White Paper on the Sciences in 1992 reinforced this perspective. *"The country could and should improve its economic performance by making the science and engineering base more aware of and responsive to the needs of industry and other research users"*

(Henkel 2000:44). While these changes were felt most clearly in the hard sciences, the blueprint had been laid for other areas of academic research and scholarship.

The Dearing Report adopted the same perspective. It recommended that higher education institutions should establish *"more technology incubator units within or close to the institution, within which start-up companies can be fostered for a limited period until they are able to stand alone"* (Dearing 1997), and that they consider *"the scope for encouraging entrepreneurship through innovative approaches to programme design and through specialist postgraduate programmes"* (ibid). Innovation and Enterprise centres were formed where universities provided capital for academics to avail themselves of profit-making opportunities outside the university in areas such as training and consultancy.

This has not been received without reservations in some unexpected quarters. Last year the government's Chief Scientific Adviser, Professor David King, argued that long-term blue skies research was being sacrificed to the needs of industry. *"Working with industry is important, but the danger is that we have strayed over that mark and have not got enough general research following scientists' own interests. The biggest industrial spin-offs are from blue skies research"* (Guardian 29/11/01). He went on to say that the commercialisation of research was in danger of lessening the quality and depth of the research to the detriment of those investing in the research.

After the foot and mouth crisis the Department for Food, Environment and Rural Affairs (DEFRA) launched the Horizon Scanning programme to do the type of forward thinking previously under-funded by government. *"This means consulting a broader range of people and organisations to determine the important topics for research [to] question assumptions underlying current policies ... including issues that fall outside*

conventional research domains." [4] Other means of encouraging closer cooperation between academia and industry include the fifteen University Challenge funds that were set up by the government in 1999. During their first year in operation they invested £8.3 million in 127 projects (Sunday Times 11/11/01).

2. University Finance

"...the university faces, it is sometimes suggested, a crisis of legitimacy. It comes to see itself both as an engine for economic regeneration on the one hand, and as a repository of traditional academic virtues of scrupulousness and scholarliness on the other hand" (Barnett 2000:30)

In recent years most universities have sought to explore other sources of funds. Aside from efforts to get students to pay more for their education, universities have become more proactive in attracting conference and holiday visitors. Employing professional fundraisers and consultants, major fundraising programmes, similar to those in the United States, have been launched, including appeals to industry and to alumni. Universities have sold off property and rationalised their estates.

Meanwhile economies have been introduced. Contact hours between students and lecturers have been reduced. The traditional security of employment in universities has given way to the employment of teaching and research staff on short-term contracts, so that, by 2001 over half the academic staff of many universities are on one to three year contracts. However most of these ways of balancing budgets have been for the day to day running of the university, to cover essential maintenance. Particularly in the sciences, universities have been encouraged to meet burgeoning infrastructure research costs, up to now largely met by government through the Funding and Research Councils, from charities such as the Wellcome Foundation, and direct from industry.

One method of doing so is for an academic researcher or a department to bid to become a consultant to a commercial organisation. Consultancy is viewed by Universities UK (UUK) as one way to fulfil the government's and the universities' desire to see an increase in 'third mission' activity as it is *"one of the principal mechanisms by which universities and colleges transfer knowledge, which is applied and put to work for the public good... this contributes to the growth of the economy and to the needs of society more generally"* (UUK 2001:4). In a report issued last year UUK sought to issue good practice guidelines for the management of such consultancies and claimed that *"1% of academic staff time, in a typical university (1500 academic staff) devoted to consultancy services sold at a market rate (£500 per day) would be worth nearly £2m to the staff or the institution"* (UUK 2001:5).

As commercial funding becomes an integral part of the institution's income stream, vital to the economic well-being of the university, the differing requirements of research, consultancy and teaching become clearer. *"There is a limit as to how much change and adaptation they can undergo before they fall apart, disintegrating as teaching, research and consultancy separate out into distinctly organized functions increasingly unrelated to each other"* (Gray 1999:50). One respondent told me *"the short time frames allotted to commercial projects make it even more imperative that the interests of the organisation do not undermine the rights of those being researched as well as the researchers themselves"* (fieldwork notes).

"The dual objective from the point of view of the university is to allow university expertise to be put to use in other sectors of the economy, and at the same time enable the university staff members involved to obtain additional practical experience which is likely to be beneficial in their teaching and research" (Ross in Craig 1998:147). But it is possible that it is industry that benefits most from this relationship. The disparity in salaries and related costs between industry and

academia enables a commercial enterprise to save resources by funding university staff to carry out research in university labs and libraries.

As the proportion of government funding declines, it is also crucial that universities do not undersell their expertise. In their 1992 report on university-industry collaborations the CVCP recommended that universities should seek a price for commissioned research that *"ensures that full cost recovery is achieved and which also takes account of opportunity costs where rights are assigned or constraints imposed"* (CVCP 1992). One of the criticisms voiced, during my research, by many academics was the reluctance of commercial organisations to contribute full infrastructure costs and overheads – on the assumption that these are covered by government grants. Staff, research institutes and departments may be anxious to agree to undertake research without such contributions to ensure that staff and research units can continue work.

Funds are also sought by inviting industrial partners to sponsor courses, lectureships or chairs. Such commercial partners obtain the prestige of being associated with a university while getting some top quality research carried out at minimal expense. The university for instance, covers the whole recruitment cost. According to their website, at Brunel a *"sponsored Chair or Reader will cost the sponsor only around £60,000 per year and will be funded on a three-year rolling contract"*[5] (Brunel 2001).

At Bath Microsulis sponsor a chair in Medical Device Engineering which is according to their website *"part of the Company's commitment to research as the basis of ongoing product development and innovation"*[6] (Microsulis). Lancaster University has attracted €1.2 million of funding to *"support the development of its IPv6 Mobile Systems Research Laboratory. Orange, Microsoft and Cisco are the key commercial partners."*[7] At Salford there is a laser laboratory

sponsored by BNFL.[8] At Bradford there has been a sponsored lectureship from the Abu Dhabi Oil Corporation (ADCO)[9] while at Cardiff British Gas have invested £300,000 towards creating a Professor in the Department of Earth Sciences.[10] But for the university such sources of welcome income may entail potential embarrassment.

Cambridge faced such embarrassment when they agreed to establish the GKN Professorship of Manufacturing with GKN providing £750,000 over ten years. GKN is involved in the manufacture of helicopter and aircraft components for military use and is a large shareholder in Alvis who make armoured vehicles. According to the Campaign Against the Arms Trade GKN sold $1415 m of military equipment in 2000. The involvement of a senior member of the company on the selection panel raised concerns among some members of the University as to the independence of this Professorship. Other chairs at Cambridge are sponsored by BP in Organic Chemistry and Petroleum Science, by GlaxoWellcome (Molecular Parasitology) and by Marks and Spencer (Farm Animal Health).[11]

3. Blurring the Boundaries

"The people who are harmed most by these funding constraints are, of course, the scientists. Science is in danger of being reduced to a search for new applications of existing knowledge, and its practitioners to mere technicians. The mapping of the human genome was a remarkable feat, but much of it consisted of the repetitive use of sophisticated machines. There's nothing wrong with that, as long as other researchers are funded to think" [12] (Monbiot 2000)

It is unclear whether the attitudes of the captains of industry towards HE mimic government policy or whether their influence on government policy on academic research renders the two indistinguishable. Certainly

industry plays a significant role in the work of the Research Councils. Since 1993 an industrialist has chaired each of the Research Councils, with an academic as chief executive. Monbiot cites the example of the Biotechnology and Biological Sciences Research Council (BBSRC). At one stage among the members of its Board were the Executive Director of biotechnology company Zeneca, the Chief Executive of pharmaceutical company Chiroscience and a former Research and Development director at Nestle, while the BBSRC's strategy board contained executives from SmithKline Beecham, MerckSharpe & Dohme and AgrEvo UK.

The Foresight Programme is another example of the part that industry plays in setting government research policies. Kogan suggests it was intended to *"encourage networking between users and researchers and to identify possible priorities for the development of research according to scientific opportunities and capacities to exploit them on the basis of economic and social demand"* (Kogan and Hanney 2000:114). The Foresight Panels, operating from the parliamentary Office of Science and Technology, aim to increase communication and reciprocity between government, industry and academia and have a strong influence in shaping policy as they act as sources of scientific advice to the government. These panels however tend to be dominated by business chiefs rather than academics or politicians.

The many such panels and their sub-committees serve to attune academic priorities to current government and commercial interests. But what is the effect on scientific integrity when, as Monbiot records, the meat subcommittee complains that certain scientific projects have helped give credence to *"criticisms of meat production from an animal welfare and environmental-impact perspective [and views of] high levels of red meat consumption as potentially damaging to human health"?* (Guardian 9/11/2000).

4. The Global University:

"What is the dogma that the university is built on? Knowledge is important. Just that. Not "relevant" knowledge; not "practical" knowledge; not the kind of knowledge that enables one to wield power, achieve success, or influence others. Knowledge" (Nisbet 1971: 24).

How is the university affected by the decline of the powers of the nation state and the rise of the global economy? According to Goddard there are four different aspects of globalisation that universities need to address – simultaneity, multiple choice, pluralism and resource mobility (in Gray 1999:42). As universities become increasingly entwined with the commercial world they must keep up with new advances in technology and teaching products. There are now more choices for the consumer of the services of higher education and, with advances in information technology, each university competes for business in a global marketplace.

Nisbett writes that there is *"nothing like direct and perceived economic interdependence to stimulate and feed the sense of social and psychological interdependence"* (Nisbet 1971:57). He argues that until the 1960's the university could be characterised by its degree of autarky. While funding for the academic community came mostly from taxes one must remember that until relatively recently *"members of the university drew not merely their livelihoods but their research money, their travel assistance for attendance at professional meetings, their clerical and secretarial assistance and their other academic prerequisites solely from the academic community itself"* (ibid).

What is the role of the university when the *"economics of globalisation mean that the university is no longer called upon to train citizen subjects, while the politics of the end of the Cold War mean that the university is no longer called upon to uphold national prestige by producing and legitimating national culture?"* (Readings

1999:140). The university had to become *"a player directly in the wider world ...[because] in many, if not most, fields there are no clear boundaries between the university and the wider world"* (Barnett 2000:19). The university must begin to lead both socially and creatively. According to Mayer if universities only *"adjust or adapt to circumstances, rather than fill an anticipatory role, they will not be able to shape the future"* (in Gray 1999:197).

Universities can no longer pretend to be self-reliant, 'autonomous'. They must now engage with commerce, but the implications of this interaction are not altogether clear. In the next section I outline some of the major changes that have occurred in universities following the commercialisation of academia.

3 Changing Institutions

1. The New Model University

The need to find diverse sources of funding alters the structure and nature of the university. The new university is a multi-faceted institution but one of its main distinguishing characteristics will be its success in attracting finance through industrial ventures and through other links with commercial organisations. Traditional academic values now have *"to compete with a multitude of values and objectives – economy, efficiency, utility, public accountability, enterprise and various definitions of quality"* (Henkel 2000:147). It is worth noting however that scholarly scepticism about the opposition between academia and industry often fades when it comes to funding.

Academia receives most of its funding from the same place as health, transport and defence – the state – and so, like the industrial entrepreneur, *"academic capitalists are subsidized primarily from the same sources as industrial workers and for many of the same reasons as industrial capitalism"* (Slaughter and Leslie 2001). There is however an elite when it comes to research funding. Over 25% of the government funding goes to four universities which *"lever the cash to grab the lion's share of research council grants, industry contracts and charity research grants"* (THES 23/11/01).

These institutions, also at the forefront of the rush for commercial collaboration, increasingly exhibit many of the characteristics necessary to transform a University into a successful *"Entrepreneurial University"* (Clark 1987:5). There is a "strengthened steering core" (Clark 1987:6) – a strong centralised leadership – able to make decisions quickly while leaving departments/faculties some leeway in managing their own short-term internal arrangements.

Reconciling new university management practice with traditional academic structures is the second problem facing any university wishing to expand or commercialise its operations. When setting out to increase collaboration with industry the university must be flexible in setting up these new centres of enterprise, innovation or development that Clark refers to as *"non-traditional units"* (ibid). While these are relatively easy to set up and disband they require those working within them and others within the university to accept that old systems of management and direction might not apply to the new units and that they may have more flexibility than other areas of the university.

Thirdly, these units will cross disciplines, departments and schools. Considerable management skills are required to ensure that resentment or antagonism does not develop due to the perceived extra freedom of these units. The success of the entrepreneurial university depends on academics in positions of power and influence within the old structures accommodating changes in the power structure – *"in the entrepreneurial university, the heartland accepts a modified belief system"* (Clark 1997:7). Clark cites the Warwick University of 1995, when it had 27 major departments and schools and 30 research centres spread throughout them. Now Warwick has 30 departments and 49 research centres and institutes.[13]

The entrepreneurial university becomes very proficient at attracting 'third leg' and 'third mission' funding. This type of funding enables the entrepreneurial university to make decisions quicker as it does not have to wait "for system wide enactments that come slowly, with

standardized rules attached"(Clark 1997:7). As Evans points out, this external funding also comes with its own baggage – *"there can be no realistic expectation that commercial funders will often want to give serious money to universities out of a disinterested love of learning"* (Evans 1999:47). This entrepreneurial spirit must become embedded in the culture of the university to ensure that the university develops *"a work culture that embraces change"* (Clark 1997:7).

Clark argues that this process is a two-way event where *"management points of view, including the notion of entrepreneurship were carried from the center to the academic heartland, while faculty values infiltrated the managerial space"* (ibid). This is symbolised by academics that are trusted and respected by their peers serving in positions of central responsibility.

Views differ on how widely this happens in British universities today. Moves to new management styles are often accompanied by disengagement by academic staff. Administrators and academics may view things from varying perspectives and priorities but according to Johnson, they *"cannot 'manage' people into successful teaching nor can [they] ensure by good management that people do high quality research or write original books"* (in Evans 1999:86).

2. The University Transformed

The commercialisation of academia – through the increased interaction with business, the increased reliance of universities on self-financing and the increasing consumeri-sation of the student population – has been partly responsible for a more structured, bureaucratically ordered university. There has been an increasing centralisation. The locus of power has moved away from departments, faculties, councils and senates to smaller management groups with many major decisions being made by the same permanent, unelected,

self reproducing groups. This move to the centre can, in Neave's opinion, move the *"balance of power towards university administration, seen less as the handmaiden of academia than the secular arm of financial accountability for central or local administration"* (in Jacques and Richardson 1985:33).

One possible consequence is, as Neave outlines, the fourfold division of academia. The main two sectors are those academic staff on long term research backed by government and those on mid to long-term contract research that is commercially funded. Under these come those researching on small personal grants with an involvement in teaching and those involved in teaching alone. Neave goes on to suggest *"the penalties of being in those fields which do not easily lend themselves to activities falling into the first two categories are likely to be rather unenviable"* (in Jacques and Richardson 1985:35). Those penalties became clear to many academic staff as institutions prepared themselves for the 2001 Research Assessment Exercise.

As commercial sources of research funding become more significant a consequence will be, as one respondent suggested, *"priority being given inside the institution to responses to commercial opportunities at the expense of work less obviously amenable to commercial exploitation"* (fieldwork notes). This can lead to a sense of disenfranchisement among those not receiving research funding and an erosion of the values and impulses that drive researchers and what they want to achieve. Another academic told me that she believed that commercialisation, particularly of research funding, could also lead to the undermining of staff relationships, as it seems that *"a more commercial approach seems to lead to different patterns of reward and conditions of involvement"* (fieldwork notes).

Another spoke of his feeling that, following the increased commercialisation of research, there is *"a loss of the sense that research is a public good,*

done for the general welfare or common culture, rather than a private good done for self-interested reasons" (fieldwork notes). It was clear to me that many academics carry out their research for what they see as the common good. During my fieldwork many of them expressed sentiments echoed by a senior lecturer who told me that he believed *"the traditional function of the University has included an altruistic motive, but that this might be threatened by greater commercialisation"* (fieldwork notes).

This division of labour within the university, resulting in part from the commercialisation of research offers some intriguing possibilities. Raman offers the futuristic story of Winslow and Fred. Winslow, a *"text sorter for the Centre of Knowledge Creation"* (Raman 2001), extracts material from pre-prepared packages for social research papers. He forwards the quotes, citations and text to a sub-contractor who puts them together with interviews done by a professional fieldworker and then forwards them to Fred, a specialist *"social research assembler"* (Raman 2001), who will put it all together and forward it back to Winston's university where some Professor will publish it. The vision is of the researcher as piece-worker.

Such a system can impact on interdisciplinary work as certain departments and faculties become more commercial than others and can undermine what Barnett sees as the *"spontaneous and fruitful cross-linkages across the discourses represented by the university"* (Barnett 2000:104). Academic staff must view most of their colleagues as competitors for funding (albeit not an entirely new phenomenon). But in addition colleagues will have different goals and often be forbidden to discuss their work due to the constraints imposed in their contracts with competing commercial partners.

3. The Society of Excellence and Auditing

The missions and strategy documents universities have created in the last ten years have increasingly included the concept of 'Excellence'. Many institutions now claim to aspire to 'excellence' in teaching and research. As Readings argues, the term – derived from accounting practice – is vacuous without clear criteria and removes any concept of value. When a certain area of academia cannot adapt to this way of thinking, or when *"a particular department's kind of excellence fails to conform, then that department can be eliminated without apparent risk to the system. This has been, for example, the fate of many classics departments"* (Readings 1999:33). It is beginning to happen more widely in the arts and humanities.

The terminology symbolises a belief that the university no longer has a role in the service of the state but that the *"University Of Excellence serves nothing other than itself, another corporation in a world of transnationally exchanged capital"* (Readings 1999:43). This however is an insubstantial basis for a university and therefore the University *"has no foundations: it has no epistemological or ontological anchoring. It just make things up – on both fronts – as it goes along"* (Barnett 2000:100). Today it is excellence and collaboration with industry, tomorrow e-learning, and next year vocational training.

Modern universities have had to reflect on their activities and organisation, while at the same time reviewing their provision of courses and facilities for students. Henkel illustrates how meaningless the concept of excellence had become when he quotes one vice-chancellor's admission that it took his university *"quite a long time to get beyond saying that our objectives were to be excellent at everything"* (Henkel 2000:55).

The concept of excellence is an essential element of what Strathern refers to as the Audit Culture through which the role of the university

and how it conducts itself are confused (Strathern 2000). The new model university comes together and formulates a set of criteria for how it will operate, establishes the criteria by which performance will be measured and then carries out the measuring. The audit and the culture of excellence encourage standardization.

Those universities that are 'commercially aware' require consistency. It is not unforeseeable that an institution, when asked to measure its performance, will, as with Teaching Quality Assessment, set itself low targets. While the government and HEFCE set targets, they "withdraw to the position of simply checking the resultant indicators of performance" (Strathern 2000:4). When the university comes to measure performance it is in terms of accounting – *"cost benefit analysis structures not only the university's internal bookkeeping but also its academic performance in terms of goal achievement"* (Readings 1999:32). The QAA reviews of teaching and the RAE are exemplars of this audit culture.

In addition, alongside their claims of 'excellence', university managements have moved to replace structures of accountability with the paradigm of 'transparency' – thus bypassing consideration of ethical issues. To make difficult decisions and be upfront about them is commendable but as Readings argues it is *"imperative that the university respond to the need for accountability, while at the same time refusing to conduct the debate over the nature of its responsibility solely in terms of the language of accounting"* (Readings 1999:18).

Inevitably, introducing the commercial paradigm invites a commercial response and fosters inequalities within the institution. Since each discipline area is operating in different markets, the price that colleagues from different disciplines can command varies. So, commercially attractive areas in business schools and some sciences receive more funding than

the 'Cinderella' departments in traditional humanities. The institution has then decide whether to cross subsidise or appoint more staff to the prosperous department, introduce premium pay and provide better working conditions thereby enabling it to become an excellent department. One academic queried whether *"one day Universities could make industry pay a sort of goodwill tax to the kinds of research being done elsewhere in the university which has not had the same chance of external funding"* (fieldwork notes) thereby alleviating some of the more direct consequences of the difference in income derived from conducting 'sexy' or 'not so sexy' research.

4. Researching and Teaching

"Whether academic staff like it or not, the market and the state intrude in a variety of ways into their lives and work. For many there is a fundamental conflict between quality audits and entrepreneurial pressures on the one hand and academic norms and values on the other" (Becher and Trowler 2001:160). Dependence on commercial contracts inevitably challenges academic priorities. To advance in academia academics have to publish. To publish requires new research. Research often has to be fitted around teaching loads often to the detriment of both. As one lecturer suggested, *"the only way to gain promotion is to have an international reputation and a publication list as long as your arm. The salary only starts looking reasonable (and not very reasonable even then) once one gets to Reader level, and that can only be done by having a good publication record. I am a lecturer ...with no research budget and a lecture load that reads like the pre-flight checklist for the Apollo moon-shots."* [14]

The academic will now have to search for commercial sponsors to provide that research budget. However Strathern argues that the culture of the audited and commercialised university prevents good research and teaching.

There are, according to Giri, some things which cannot be accounted for or audited: *"In research, time must be set aside for all wasteful and dead end activities that precede the genuine findings...yet there is almost no language in the audit culture in which to talk about productive non-productivity"* (quoted in Strathern 2000:178).

Academics are under pressure. Their traditional culture is challenged. It is no longer sufficient to teach and produce a couple of papers and the odd book chapter every few years. Now the academic must *"not only generate new courses; they must cost them, determine and stimulate markets for them, evolve new ways of delivering them and ensure that they can stand up to hard external scrutiny"* (Becher and Trowler 2001:17). Many universities, following the RAE of 2001, will now only appoint staff whose record of production includes four papers published in refereed journals. This could be seen as a process of acclimatisation to the culture of the commercial market. The academic, like the middle manager in industry is to be multi tasked and multi talented. According to Nisbet, the academic is *"that modern incarnation of Caesar, the academic capitalist, the professional entrepreneur, the new man of power"* (sic) (Nisbet 1971:75).

One response to inter-institutional competition for substantial commercial sponsorship is the replacement of the tradition of individual scholarship with large research institutes – better placed to tender for major contracts and to establish a reputation beyond that of the individual scholars. But, as the commercial research is hived off into separate units, the staff involved become isolated from the rest of the academic community. The formation of innovation units, commercial centres and research and consultancy departments further undermines any sense of the university as a community of scholars where the teaching of students and values are shared. One social policy expert told me that in her view, *"the comments*

and advice that might be provided by conventional research teams or committees and ethics committees, for example, might not be as readily available to discussions about commercial contracts managed by a separate section of a university" (fieldwork notes).

However, advocates of the increase in commercialisation of universities have argued that it has helped undermine academic nepotism and dethrone the old boys' network, resulting in increased access to research funding for women and minority groups. Universities are led and governed by men[15] and until recently the Research Councils restricted research applications to tenured staff, which prevented many of those women who were employed from applying as they were on short-term contracts.[16]

5. Templates

Recognising the difficulties inherent in the adoption of the ethical guidelines that follow I have modelled my alternative approach on the implementation of equal opportunities legislation and on attempts at introducing good practice developed over the last few years.

According to the University of York, *"The encouragement of equal opportunities is consistent with the broader aims of the University, in making a vital contribution to the core activities of teaching, learning and research, and in supporting the University's commitment to academic excellence. Universities have a responsibility for the free and tolerant exploration of knowledge and learning."* [17]

But, when first mooted, implementation of equal opportunities legislation was resisted in higher education. The concept was deemed unworkable in academic institutions, unmanageable and incompatible with notions of academic freedom. However the process has been a gradual one and different universities

have complied with the legislation in different ways and at different speeds. In this country the number of women academics and academics from minority groups in senior positions has risen slowly but steadily. It is now almost obligatory that any interview panel will be mixed-sex.

Disability legislation ensures that buildings should be accessible for all members of the population; removing various excuses previously used to, for instance, deny employment to wheelchair users. The rise of Anti Harassment Networks, facilitated by staff volunteers, further enhanced the whole concept of equal opportunities.

I am not suggesting a single formula for how individual universities should develop any ethical policy but I hope that what follows – more of a template than a formula – may offer some useful suggestions and guidelines, and stimulate debate. To adapt part of University of Bristol's equal opportunities policy, I would hope that universities would consider much of the Code that follows because they believe it *"to be ethically right, academically essential and socially responsible."* [18]

Large-scale research of all kinds now involves collaboration with academics and institutions in other parts of the world. It cannot be assumed that those collaborating institutes and organisations will uphold identical ethical and environmental policies. Universities are therefore faced with the choice of whether or not to continue collaboration with colleagues at these universities.

The Ethical Trading Initiative[19] developed by trade unions, multinationals and NGOs (Marks and Spencer, TUC and Oxfam amongst many others) offers a good model for a process by which collaboration may ensue with organisations that do not yet match the standards set by the home institution. A university might only wish to collaborate with those universities and businesses that agree to

adopt a plan of action that will eventually bring their policies into line with the home university's policies. They would then not be too restricted in their choice of collaborators but could also have a positive impact in the development of ethical principles – as with civil rights, employment law and health and safety legislation in countries where these policies are in their infancy.

There is, of course, a much wider question – too complex to address here – about the right of one country or culture to impose its way of operating on another. However I believe that the code outlined below can be applicable to all higher education establishments, even if at the moment the adoption of such a code would be a luxury to which some universities can only aspire.

While many debates about the ethics of receiving funds from specific sources can be largely internal, some ethical policies are being pursued at national and international levels. A campaign run by university staff in the UK to implement an ethical investment policy for their pension fund, the Universities Superannuation Scheme, worth over £19 billion, has been singularly effective. Ethics For USS – a concerned group of academics and students – has been encouraging the USS to adopt ethical principles when investing their funds. As a result USS was one of the investors who voiced concerns to Balfour Beatty over its now withdrawn plan to build the Ilisu Dam and worked with Oxfam to encourage Glaxo to reduce the price of their anti-AIDS medicines in Africa.[20]

Ethics for USS maintains a policy of constructive engagement. They affect the policies of companies through having influence on a major shareholder and investor – USS. *"As a result of pressure from students and staff, USS have adopted a 'socially responsible investment' policy which commits them to a number of initiatives, including lobbying companies to improve their ethical policies. This will involve activities*

such as voting at AGMs and working with other investors, rather than actually selling shares in a company. The first focus of the new policy will be in the controversial oil and gas sectors." [21]

Whether initiated internally or externally, with sufficient momentum efforts to establish an institutional code for ethical practice and accountability could be as effective.

4 Developing an Ethical Response

In this section I indicate some of the difficulties that some universities have recently encountered through collaborating with industry. I have selected eight themes and for each I offer a short introduction, a case study, some recommendations and a few outstanding issues. The case studies have for the most part been well publicised. Yet, it seems that little effort has been made to draw any general lessons from them. Each offers an illustration of why, in my view, a Code of Practice for Ethics and Accountability would be helpful. They are offered in the recognition that raising such questions can be the start of a lengthy process of discussion and negotiation.

1. Safeguarding Academic Freedom

Q **How might universities ensure that one of the guiding principles of a university – that of academic freedom – can be protected and developed in the face of increased commercial pressure on universities, departments and individual researchers?**

"The whistleblower is not always a hero. Sometimes he is a damn nuisance. But he should never become a victim as a result of conscientious raising of substantive concerns. Universities should be as fearless in accepting challenges about the conduct of their affairs as it is the duty of scholars to be in teaching and research" (Evans 1999: preface).

Freedom of speech – in particular the freedom of academics – to *"question and test received*

wisdom and to put forward new ideas and controversial or unpopular opinions without placing themselves in jeopardy of losing their jobs" (Education Reform Act 1988) is a central tenet of university life. Without having these values at the core of its existence, a university sacrifices its integrity and justification. Many staff interviewed for this project were concerned that increases in commercialisation of research would be accompanied by constraints on academic freedom.

Academic staff felt that, while their university could experience benefits from industrial collaboration, some rights, particularly the right to publish, needed protecting: *"This University is, like most academic institutions, eagerly embracing commercial funding prospects. Apart from the issue of intellectual property rights, the University has not, however, considered other ethical and knowledge issues involved"* (fieldwork notes).

The need to protect such freedom is of course favoured by most universities. Many incorporate the right to free speech within their charters, statutes and mission statements. Oxford University for instance attests that *"members, students, and employees of the University are bound at all times so to conduct themselves as to ensure that freedom of speech within the law is secured for members, students, and employees of the University and for visiting speakers"*(University of Oxford 2002). [22] Organisations such as the Council for Academic Freedom and Academic Standards in this country and the Centre for Science in the Public Interest [23] in the US seek to ensure that this freedom of speech is extended

to the right to publish research findings and to minimise the effects of the *"possible vested interest of the funder in controlling the research agenda and possibly manipulating or even suppressing the findings"* (fieldwork notes).

Researchers have traditionally been strongly encouraged to conform to certain modes of working. One academic working in a university already engaged in extensive contracts with commercial partners told me that *"pressures are often felt inside departments as Heads of Department attempt to ensure uniformity of response to the University's priorities"* (fieldwork notes). It seems inevitable that these pressures will become more pronounced as a higher proportion of university research is funded by commercial organisations. Universities may agree explicit conditions. But there are also frequently implicit understandings that research outcomes should be confined to those with commercial value and be consistent with company policy. Why else should the research be funded?

Case Study

The recent dispute resolved by the agreement of the London School of Economics to an out-of-court settlement with Thanos Mergoupis illustrates the dilemma facing institutions with research contracts with commercial organisations. Mr Mergoupis was appointed by the School to its academic staff to carry out research on tourism on a project funded by the World Travel and Tourism Council (WTTC). The Council withdrew its funding mid project in protest at what it called inadequate research.

Mr Mergoupis, however, claimed that this withdrawal was really caused by the fact that the WTTC (a travel industry lobby group) objected to the research findings on the socio-economic impact of tourism. Although LSE seemed to back Mr Mergoupis they did not protest to the WTTC at the withdrawal of funding. The possible cost (not solely financial) of enforcing

this funding contract through the courts seems to have discouraged LSE from doing so.

Formal legal advice to the institution later confirmed that the LSE would have had good grounds to seek damages to compensate for the premature loss of funding. However, the LSE's failure to dispute the WTTC's decision at the time, it was confirmed, meant that any potential action was almost inevitably doomed. With the funding gone, LSE terminated the employment of Mr Mergoupis and his research assistant.

Mr Mergoupis argued that the LSE had not protected his academic freedom or his security of employment. By settling out of court the School reinforced an impression that Mr Mergoupis was probably correct.

Missenden Recommends:

All universities should have an Institutional Ethics and Accountability Panel or Committee.

Outstanding Issues:

- Can universities guarantee complete, unfettered academic freedom to their employees?
- Should the need to protect academic freedom outweigh all other considerations when seeking funding for research?
- How should disagreement among academic staff and students about academic freedom be resolved?
- How can the management of a university and research funders be challenged about ethical issues without fear of retribution?
- Is an Ethics Panel or Committee the most appropriate mechanism for addressing these issues?

2. Tasking an 'Ethics Committee'

Q. **How can an ethics committee ensure that the university's core value of academic freedom is protected when faced with a large number of proposals to accept funds from organisations with commercial objectives?**

"The Western university has evolved through a value background, which itself has expanded. That value background includes the idea that certain things matter, such as a willingness to search for truth, respect for others in a truth-orientated conversation, tolerance of rival views, a willingness to be self critical and a prizing of courage to proffer new views." (Barnett 1994:83).

It is now becoming standard practice for university research centres and institutes to establish some form of ethical advisory panel or committee. An overall institutional policy is less common. But increasingly a university's approach to ethical issues can have a serious impact on how it is viewed by prospective students and the local community as well as by potential funders of research. The response to questions such as 'is their research ethical?' and 'do we wish to accept funds from this organisation?' *"textures the view of the university"* (fieldwork notes).

So will universities be willing to confer on an ethics committee the power to turn away research funding from specific sources or order the curtailment of research with unacceptable restrictions on publication? Or will it be more of an advisory body that *"considers all ethical issues arising in relation to the conduct of research in the university, and/or by members of the university with recommendations or offers of guidance"*? (Lancaster University Ethics Committee 2001). While many departments and faculties may have their own ethics committees, will universities wish to ensure that they are consistent with institutional commitments and procedures?

Academic researchers find the requirement to submit research proposals to ethics committees irksome and time-consuming. In the United States the Institutional Review Boards (IRBs) carry out a similar function, and, although they were originally set up to monitor research involving human subjects, they now cover research in most of the social sciences and humanities. Many US researchers consider that they interfere with their research. While members of ethics committees may believe that their primary role is to facilitate good research rather than to police researchers, they may have difficulty in convincing some academics and research teams, that they are not, as Furedi suspects, acting as *"bureaucratic gatekeepers who use ethics as a managerial ideology"* (THES 16/11/01).

Academics may not be easily reconciled to the demand to have their actions reviewed by outsiders. The Nolan Report on Standards in Public Life recommended in its second report that it was no longer *"sufficient for public bodies to take good decisions. They must be seen to do so, and be prepared to let an independent person or body review their activities if necessary"* (in Evans 1999:3). This requires that decisions be made in open meetings and correct and inclusive minutes be taken and published. This will be difficult where substantial funds are offered often on a confidential basis.

Case Study

The massive underwriting of the new Oxford Business School by Wafic Said illustrates some of the potential problems faced by ethics committees.

The expansion of business education had been a long-term aspiration of the University of Oxford. Mr Said's offer of funds to establish a new school in his name was opportune. But ethical objections existed on three levels. There was hostility (mainly from students and in the media) to the acceptance of such funding from a man *"who was a key broker of the Al-Yamamah arms*

deals in which Britain sold weaponry to the oppressive Saudi government during the 1980s. The deal was the biggest known arms sale ever, and according to an award-winning BBC Dispatches documentary, it included fighter planes, as well as electro-shock batons which are used to torture political dissidents". [24] There was opposition because it was thought inappropriate to allow Mr Said to influence the running of the School by being involved in the selection of trustees. There was some resistance to the further encroachment of commerce into the University. The ethics committee approved the proposal, which was worth £20 million. However for many staff, students and the media the decision was perceived by to be a foregone conclusion as it was hinted that the government had intervened to ensure that the proposal was supported. [25]

What should have been a source of pride for the institution – an enhanced Business School and significant investment – actually resulted in much negative publicity.

Missenden Recommends:

The Committee should establish realistic procedures for vetting all substantial donations, sponsorship and funding that the University applies for or is offered.

Outstanding Issues:

- What is the remit of the committee?
- Will the committee wish to turn down all funding from certain organisations?
- Should it establish a definition of 'substantial'?
- Should its decisions be binding?
- How will the membership be decided?
- Should the financial implications for the University be taken into account in considering specific cases?

Outstanding Issues *(contd)*:

- Its findings, and justifications for same, need to be as publicly accessible as possible without hindering the decision making process of the committee
- Should there be two separate ethics committees – one for research and one for other university concerns such as investments?
- Should ethical concerns be dealt with case by case or should an attempt be made to codify the university's ethical position?
- How will the local wider community be involved?
- To whom should the committee report?
- Should commercial partners be asked to meet any ethical standards?
- What would be workable procedures for putting committee decisions into effect in individual cases?

3. Defending the Academic's Right to Publish

Q. **Freedom to publish within a system of peer review is the cornerstone of academic life. What will be the effect of greater dependence on commercial sources of funds and what if anything should universities do to protect this freedom?**

"The dissemination of research results through publication is a fundamental part of the function of a university. As part of their defence of academic freedom, institutions should vigorously defend the right of all their researchers to publish the results of research which has been carried out in an expert, responsible and professional way" [26]
(University of Edinburgh)

While many of my informants felt comfortable about the increased commercialisation of research they expressed concerns about any threat to the right to publish the findings of their research regardless. One respondent told me, *"Editorial independence is very important [as it shapes] how your relationship is perceived"* (fieldwork notes).

Academic careers and reputations are legitimised through their publications: *"The most discouraging news is that, in these competitive times, it is unlikely that an MA or even a PhD will get you a university post..... if you have not yet made it into print. Faced with people with PhDs and several publications, you may not even make it on to the shortlist"* (Silverman 2000:226). Academic credibility is established through publications reviewed by fellow experts. *"The essence of academic freedom is that teachers should be chosen for their expertness in the subject they are to teach and that the judges of this expertness shall be other judges."* (Bertrand Russell)[27]

However, commercial organisations are constrained to run on commercial principles – which inevitably demand some curtailment of the researcher's publication rights. Most staff of research institutes may be reconciled to this at the outset but may be embarrassed when expected to suppress research findings that could be unacceptable to their sponsors.

Academic status can be measured by the frequency published work is cited in other publications. Citation studies are increasingly used to determine the most influential scholars and the standing of research institutes. So universities will need to consider how to protect the integrity of measures such as this by asking what happens when clauses in contracts with commercial partners forbid publication for reasons of commercial sensitivity or security. Sponsors may effectively censor publications with long term effects on the credibility of research from that researcher or institute.

All subsequent publications by an academic whose PhD was sponsored could be discredited.

A traditional feature of university culture is the freedom to discuss projects, research problems and experimental results with colleagues at academic seminars and conferences. But, sponsors may want this curtailed. And, according to one Professor of Politics, the danger of suppression of publication where results do not match the expectations of the sponsor may extend to work on contract for government departments (fieldwork notes). The integrity of academic researchers may be challenged if it is revealed that their work was funded by organisations that stand to benefit from the results. So I am proposing that every researcher should know exactly who is funding their research team, the source of that funding, and that the sponsor of the research is acknowledged prominently in all publications.

A report last year, sponsored by the Healthy Flooring Network (HEN) which suggested that dust mites in carpets were a cause of childhoods asthma, was later found to have been indirectly funded by Pergo the Swedish wood floor manufacturers. The cash paid for a report from Dr. Jill Warner, of Southampton University, whose report suggested that: *"It's time for families to consider alternative forms of flooring"* (The Mail On Sunday 2/09/01).

Dr Warner stated that she did not know that Pergo had given money to Health Flooring Network through a consultancy and that it did not have any effect on the result – *"I can affirm that it would have made no difference to the outcome of the report."*[28] Despite the fact that HEN subsequently revealed that they did not know the money that they had received through the consultancy firm had come from Pergo, academic colleagues dismissed the research findings. Writing about a similar case an editorial in The Guardian concluded, *"Science is a word that derives from the Latin scire, to know. If people are aware who pays for this knowledge, and who will*

benefit most from it, they will also know how to value it. Such frankness will help the scientist as much as the consumer. People with nothing to hide have everything to gain" (The Guardian, 27/08/01).

Case Study

In 1996, David G. Kern, an associate professor of medicine at Brown University and director of a program on occupational health was hired by a nylon-manufacturing company called Microfibres to determine the cause of lung problems affecting a few workers. When, during his research, he identified a high incidence of illness, he proposed to publish a study reporting the findings. But company officials claimed that a non-disclosure agreement he had signed in 1994 prohibited him from publishing his results. The University and its affiliated Memorial Hospital (where Dr Kern worked) backed the company. Dr Kern argued that even if the agreement had legal standing, which he insisted it didn't, *"ethics required something else of us."* [29]

One week after presenting his findings at an international meeting, Dr. Kern was informed by the University and the Hospital that his contract, due to expire that year, would not be renewed.[30] Dr Kern told the New England Journal of Medicine that he and his team were *"investigating an evolving occupational-disease outbreak among a unionised industrial work force. Our primary focus was the health of these workers rather than academic research [while] our hospital and medical school administrators have actively participated in the special-interest group's efforts to undermine both our credibility and the generation, dissemination, and application of scientific findings."* [31] The University received much negative publicity as a result of this case and it was suggested that other research coming from Brown University was 'tainted' by the story (Donnay *et al* 1997).

Missenden Recommends:

The right of academic staff to publish research findings should be the primary consideration of any contract between industry and academia. Where the Committee is minded, in an individual application, to accept a case for limitation on the freedom to publish, any reference to the work should include an explanatory note to this effect.

Outstanding Issues:

■ Should all commercial contracts have precise conditions about the rights of the academic researcher to publish the results of their research?

■ What grounds are acceptable for restricting the publication of results? Would this be for a specific period?

■ What are the benefits to individual academics and to the institution of carrying out research that cannot be published?

■ Who dictates the parameters of confidentiality?

■ How do the calls for commercial confidentiality affect the integrity of PhD students on Research Council collaborative awards?

■ How are academic staff to be made aware of university policy on the publication of sponsored research?

■ Can a research institute be over reliant on any one commercial funder?

4. Protecting Intellectual Property Rights

Q. **When much of the financial gain to be made from developments in biotechnology, communication systems and medical research (etc) arises from intellectual property rights, how are universities to ensure that they combine being commercially attractive to funders and investors with retaining as much benefit as possible for the institution, its staff and its students?**

"Intellectual property is the innovative and novel output of intellectual creativity, effort and thought. IP encompasses inventions, designs and images, software, written work, know-how and processes. IP can be protected by various means including patents, copyrights, trademarks and design rights. These rights can be bought, sold or licensed and they enable owners of intellectual property to control the commercialisation of their work for a fixed period. Intellectual Property Rights are rights which enable owners of intellectual property to exert monopoly control over the exploitation of these rights, usually with commercial gain in mind. They give the right to stop others exploiting this property, sometimes for a fixed period, sometimes indefinitely." [32] (University College London)

When research is commercially funded, the interests of the various parties involved – sponsor, researcher, employer and citizens supplying information – are potentially in conflict. When is a member of staff of an institution acting in a private capacity? *"Interpreting 'in the course of employment' and other key factors has become increasingly important for employees in higher education, as stakeholders seek to capitalize on intellectual assets but not always collaboratively"* (Hannabuss 2001). Guidelines regarding use of university property, research material, and facilities must be developed to prevent costly and often counterproductive disputes over who is entitled to what share of any benefits accrued.

If universities wish to control the IPR in the inventions of staff and students they must strive to ensure that staff and students are aware of the benefits (as they perceive them) of the university having control of their intellectual property rights. Students registering at Lancaster University are offered the opportunity to assign their intellectual property rights to the University at matriculation. The benefits and disadvantages of doing so are explained at the time: *"As a student of the University and usually as an individual without substantial private means, you are unlikely to have the negotiating power or credibility that the University has when entering into discussions for the exploitation and commercialisation of particular intellectual property with businesses or other institutions... the cost of preventing others from infringing your rights can also be very significant... [I]n most, if not all, circumstances, to prevent infringement the owner of rights will have to seek legal or other professional advice, and the cost of doing so can run into tens of thousands of pounds or more".* [33] Following changes in Human Rights law it is possible that such a procedure (students having to assign their rights) will become the standard way of dealing with this issue.

The Human Genome Project and the patenting of seeds and strains of crops such as rice raise conflict in an acute form. Universities failing to address it will risk lengthy disputes and expensive legal action.

Case Study

The University of Rochester (US) was granted a patent on the human gene Cox-2 in April 2000. University administrators immediately filed a lawsuit against G.D. Searle, a subsidiary of Pharmacia. The foundation of the lawsuit was that Searle markets a very profitable painkiller called 'Celebrex' which acts by blocking the enzyme encoded by the Cox-2 gene. The University of Rochester alleges that Searle's drug infringes its patent, which describes not just the DNA letters of the gene, but also the general

idea of using a drug that blocks Cox-2 as a way to alleviate pain.

In 1999, the first year on the market, Celebrex sales totalled US $1.5 billion.[34] According to the University *"over the 17-year life of the patent, royalty payments could yield billions of dollars, making it the most lucrative pharmaceutical patent in history"* [35]. The university was the subject of much publicity much of it along the lines of the plucky little university going up against a pharmaceutical giant. It should be noted however that much of the law in this area is embryonic and could prove expensive if the lawsuit was not won or an agreement not reached.

Furthermore there is a perception that much of the knowledge that is being patented might not be anybody's property to patent – *"I also want to mention the conflict between intellectual property rights and access to data and information which is an essential basis for research. To patent genes is to me unacceptable. They represent a discovery and not an invention and should therefore not be patented. But if genes are used to produce medicines it is different. Such a procedure should be the subject of patenting. Otherwise development of such new drugs will be hampered."* (Westerholm)[36]

Missenden Recommends:

Each university should review its policy on Intellectual Property Rights and disseminate it among staff and students by case studies. It should be included in academic staff induction and training programmes.

Outstanding Issues:

- Where would the intellectual property rights for any new invention at your university reside?

- Who is responsible for dealing with intellectual property issues?

- What expertise is available to your Ethics Committee?

- Does each research institute have a formal procedure through which staff can notify the university about new discoveries? Is it publicised and monitored? [37]

- Are your research students aware of their rights and obligations under intellectual property law and university regulations?

- What legal advice is available on copyright, design rights and patents?

- Are your institution's regulations and procedures in line with recent developments in human rights legislation?

- What impact will the commercialisation of research have on the dissemination of information and the cooperation between colleagues and departments at your institution?

- How are commercial partners made aware of your university's policy on intellectual property rights?

- Do employment contracts make explicit reference to this issue?

5. Meeting the Student Expectation

Q. **Increasing commercialisation in higher education could have a serious impact on the quality, standard and type of education that students will receive. With the increasing cooperation between academia and industry and the increasing costs to students of receiving their education, how might universities ensure that the expectations of students, and particularly research students, are met?**

"Particular attention must be afforded to higher degree candidates who might be participating in externally-sponsored research. The University will not accept any condition of income or contractual arrangement which would involve a delay in the submission of a thesis, the exclusion of essential or significant material from a thesis, or prevent or delay the examination of a thesis" (Central Queensland University)[38]

Higher education is increasingly valued for its practical utility. As with sponsors of research, employers now demand that graduate recruits display certain skills – irrespective of the subject of their degree. *"Half of the vacancies on offer to graduates this year will not specify any particular degree discipline. Employers offering these positions are looking for a reasonable degree and evidence of some academic rigour"* (Bink in Grey 1999:74).

Students have turned from attending university as *"consumers in waiting"* to *"fully fledged consumers since the introduction of tuition fees"* (Becher and Trowler 2001:9). Students become consumers or customers, and the graduating student becomes the university's end product. Employers want standardisation between graduates, as *"predictability and uniformity"* amongst employees facilitates their recruitment and training practices. (Barnett 1994:43). Students are increasingly taking part in work placements, as part of their course, often with companies that sponsor projects or research in their school or faculty.

Would a student be able to refuse a work placement on a project because she disagreed with the funding company's ethical stance? More pertinently, would she have the right to refuse without her career being affected? What avenues are open to a student unhappy that her university receives funding from GMCropsRGR8? How could or would an ethics committee take into account the beliefs of one or more masters students on a sponsored project?

Case Study

In May 2000 Steven Nicholson, a postgraduate student, managed to wipe over £40 million from the market value of Antisoma, the British drug development group. He published a paper in which he suggested that that the company's flagship treatment for the treatment of ovarian and gastric cancer, Theragyn, was not as effective as the company had suggested. The Imperial Cancer Research Fund had licensed the product to Antisoma but at the same time had given Nicholson, a former employee the antibody to use in conducting his own study for his PhD. Although Nicholson's methodology was questioned, the company suffered a withdrawal of funding by one of its major backers – Abbot Laboratories of America – following other concerns raised about the product.

The company changed the name of the treatment to Pemtumomab. They were in danger of having to cancel many ongoing research projects until backers including Cancer Research – the result of a merger of the Imperial Cancer Research Fund and the Cancer Research Campaign – agreed to invest a total of over £20 million in the company. The charity has a 5% stake in Antisoma and a share of royalties if its drugs are successful. The charity's joint Director General, Gordon McVie, told the Guardian early this year: *"We're protecting our assets, which is the appropriate duty of the trustees. We're making sure that clinical trials which have started will finish. I have a strong ethical view against stopping trials which are under way."*[39]

The product has been given 'orphan' status by the EU, meaning that the company will have ten years market exclusivity once the product is approved. Glyn Edwards, Company Chief Executive suggested at the time that the market value for this product was $850 million a year. The example of this single PhD student demonstrates how fraught and expensive the commercialisation of research can become and the important role that students may play in such research.

Missenden Recommends:

Staff, students and the local community should have representation on the Institutional Ethics and Accountability Panel or Committee.

Outstanding Issues:

- Are individual students bound by deals agreed on behalf of their department or laboratory?

- Do students have access to a realistic mechanism through which they might voice their ethical concerns over research practices at their university?

- How is the funding of research students affected by the research institute's and the university's commercial contracts?

- Are students' IPR protected?

- Should students be reliant on the goodwill of any one company's funding, access or resources necessary for the success of their PhD?

- What procedures are required to cope with the financial position of research and work placement students whose sponsor expresses dissatisfaction with their research? Or withdraws financial support or co-operation?

6. Preparing for Controversy

Q. **A substantial section of the university will not find some sources of funds ethically acceptable. Particularly if universities are undiscriminating in their choice of partners in research projects, the outsourcing of core activities, and the search for sponsors and donations, there is potential for controversy and internal dissent, possibly disruption. How should universities address this potential?**

"We're not condemning the arms industry per se," said Summers. *"But within the vast range of purposes to which arms are put, there are activities that a body such as a university doesn't feel comfortable with"* (Brian Summers quoted in The Guardian 13/11/01).

In 2001, after protests from students and considerable debate, the University of East Anglia decided to withdraw its investments from armament manufacturers. Brian Summers, Registrar at the University expressed the recognition by the University of the need to reconcile itself to the need to respond to the ethical position of students and staff and highlighted the linguistic and financial tangles universities can face in doing so. As students increasingly act as critical consumers, universities are forced to recognise the significance of their views. This is a factor which might not be at the forefront of any commercial negotiations, but which can have a devastating impact.

The decision of Leeds University to pull their endowment funds from cigarette companies highlighted the power that students can have on influencing university decisions about investments. In the US, protests by students against Gap and Nike demonstrate that involvement with industry will always raise new ethical and political questions. Such questions were not asked (although they could have been) when most research was funded through the

academic-dominated Research Councils and independent charitable foundations.

Universities might be well advised to consider the potential participation of representative bodies such as student unions in their discussion of the acceptability of the sources of substantial funding. Neglect of the student constituency has resulted in the past in students protesting outside sponsored lectures, recruitment fairs, freshers' fairs and at graduation ceremonies – situations most institutions would want to avoid.

Case Study

The impact of dissatisfaction expressed by staff and students can be gauged by the reactions at Nottingham during 2000 in the wake of the furore over the acceptance of £4 million from British American Tobacco to fund an International Centre for Corporate Social Responsibility.

The story gained international attention and staff and students opposed to the agreement appeared in all national newspapers and on television news programmes. One student returned his 'student of the year' prize to the university's Business School and on BBC news asked for the prize money to be donated to the Cancer Research Campaign. Jon Rouse said that he still thought highly of the Business School – *"It's a great business school, but it's just made a horrible error of judgement."* [40] Lecturers, students, the media, cancer charities and alumni assailed the University. Furthermore many found it interesting that BAT was giving the money to fund a centre for corporate responsibility while it was under investigation by the Department of Trade and Industry over allegations of being involved in aiding tobacco smugglers. [41]

Earlier this year a survey organised by the AUT found that over 90% of academic staff who responded agreed with the motion: *"We believe the reputation of the University of Nottingham has been damaged by the acceptance of funding from BAT. We call upon the management of the business*

school and the university to reconsider and in doing so to take the views of the staff and students of the university into account. We further call upon the university to set up an ethics committee to which any such controversial decisions could be referred in the future." (AUT) [42]

Missenden Recommends:

Procedures for considering potential sources of income should involve representatives of both staff and students, and the brief of the person within the University with responsibility for attracting 'third leg' funding should include consideration of potential ethical implications.

Outstanding Issues:

■ How widely and in what way does the university consult on ethical issues with academics, staff and students – and with the local community?

■ Is there a person within the university administration who is responsible for this?

■ How would the university deal with reservations about the sources of research funds?

■ What areas of university life would controversial funding agreements affect e.g. recruitment, promotion, public relations?

■ How far should ethical questions determine university investment policy?

7. Managing the New Model University

Q. **What changes in management skills and structures will universities need to introduce to address issues that arise from increased commercial activity of university faculties, departments and individual staff members?**

"It may seem an odd thing to say but I prefer administration and perhaps my having to say 'you may find this odd' sums up the whole debate... that teaching is not regarded as important as research, and administration is the province of fools and the inadequate." (In Henkel 2000:240)

The management of universities, traditionally carried out by administrators responsible to senior academic staff and working to a brief set by committees of lecturers, is not yet aligned to the needs and demands of the new commercial context. Rewards and status accrue to those scholars with the most impressive research reputations, with teaching, administration and engaging with outside organisations seen as chores rather than challenges. Most of those charged with the management of universities are paid on separate scales and accorded inferior status to academic staff and those academics electing to take on management responsibilities for any length of time paradoxically lose rather than gain status in the eyes of their colleagues.

Nisbet argues that in the past one could judge the academic prowess of a university by the level of trust that existed between faculty (academics) and administration – *"There was kind of a tacit agreement under which the administration administered, the faculty taught, did research and governed! Governed, that is academically"* (Nisbet 1971:49). Now there is a lack of trust, which is worsened by the use of short term contracts for new staff and a system of constant audits and appraisals. This system fosters a risk-averse culture and a conservative attitude towards potential commercial initiatives and enterprise.

Barnett suggests that the large corporations (who he believes are the Universities' role models) have long ago learned that it can be helpful to encourage staff to *"give us your ideas"* (Barnett 2000:109) while universities are places *"saturated with organisational and epistemic power: many staff feel diffident about expressing themselves. Indeed the 'modern' university regards silence as a sign both of high morale and that the university is operating 'efficiently'"* (ibid). The increased commercialisation of research is unlikely to alter this and indeed many commercial funders may also look upon silence as a good attribute in 'their' researchers.

Those academics that show enthusiasm for administration or who are good teachers and researchers soon find themselves as administrators and become embroiled in structures which are often archaic, and which while they are ostensibly effective at permitting the academics make the decisions are often cumbersome and unwieldy and very time consuming. The new academic in the new model university does not have time to attend meetings about meetings therefore power has tended to be devolved unofficially or otherwise to smaller management groups. When outside commercial organisations become involved such structures can be seen as inadequate.

Case Study

Earlier this year a report commissioned by Cambridge University seriously criticized the management structure of the University. The report was the result of an independent inquiry, called by the University into the installation and implementation of a new financial system. The Capsa system, a new computerized accounting system, ended up costing £9.172 million compared to its original estimate of £4.7 million.

Anthony Finkelstein, Professor of Software Systems Engineering at University College London, and Michael Shattock, Visiting Professor at the Centre for Higher Education Studies at London University's Institute of Education

conducted an investigation into the debacle. They declared *"although the University is by many measures very successful, it faces a number of organisational problems. Some of these result from chronic under-resourcing and failure to develop the university's administration. Others spring from the complexity and formalism of its decision-making"* (THES 8/02/02).

The report went on to say that the administrators should have realised that the university did not have the staff resources to ensure the success of the new accounts system and that by 1997 *"it should have been clear that Cambridge did not have the administrative infrastructure either in the centre or in departments to cope with the installation"* (The Guardian 02/11/01). One reason for this was that, immediately prior to the commencement of Capsa, many technical and finance staff that would have been integral to the new system took advantage of an early retirement scheme. The authors reported – *"There is an apparent inability to adapt quickly to changing demands and circumstances, or to grapple with long-term problems of strategic importance. There is a perceived lack of transparency and therefore of accountability"* (THES 08/02/02).

The report recommended that the Vice Chancellor become the *"principal academic and administrative officer, responsible for the direction and management of the university and its finances"* (THES 08/02/02) with the authority to delegate such responsibilities. Five pro-vice chancellors with responsibility for education, finance, personnel, research and planning and resource allocation would also be created.

While this only brought Cambridge into line with many universities around the country, what makes the report extremely relevant when talking about the commercialisation of research the way in which it lambasted the non-business like attitudes held by some members of the academic community at Cambridge. The report described a *"preference for the amateur*

approach" in the way the University was run which created a *"climate in which the kinds of problems that Capsa threw up could flourish"*. Dr Gill Evans a member of the University Council, a persistent critic of the management of Cambridge and Public Policy Secretary for the Council for Academic Freedom and Standards said that such mismanagement *"is the Achilles' heel of the academic-led university and if we want to preserve academic autonomy, and with it freedom from a type of managerial control inimical to academic freedom, we have to begin to take seriously the need to develop some professionalism of our own"* (THES 30/11/01). If universities wish to attract the external funding which is now a prerequisite, such standards of administration become unacceptable.

Missenden Recommends:

Institutions should review structures and procedures, and programmes of management development, to enable them to engage more effectively with commercial partners, and to address the ethical issues raised.

Outstanding Issues:

■ Are the management structures at your University clear and easily understandable to potential commercial partners and to all members of staff?

■ Do academics who make the transition to administration receive adequate training and preparation?

■ Is there a clear promotion path within the administration?

■ Do any members of the administration have experience of working in a commercial setting?

continued over...

8. Sourcing Alternative Funding

Q. **The search for additional sources of funding is a competitive one that must be viewed as a long-term process. Accepting funding from certain organisations may impinge on future funding bids. As universities launch more spin off companies how should they should identify what professional expertise is required?**

"Science and Innovation Minister Lord Sainsbury today opens the University's new £2.4m Innovation Centre on Clarendon Road, on the former Leeds Grammar School site. The Centre is forging strategic partnerships between the University and business, by offering companies access to world-class research teams and facilities, and providing academics with a home for their spin-off companies. A joint venture with Shepherd Developments, the Centre is providing high-tech, fully serviced office space for innovative start-up companies, offering them full support through their early critical stages. Lord Sainsbury said: "Turning the best ideas into jobs and prosperity is vital to our economic success." (Leeds)[43]

The Tech Track 100, which ranks new technological companies, has six university spin outs in its top 100. These six companies have managed to raise over £75 million in venture capital. While collaborations with industry are becoming prevalent here, they are lightweight compared to some of the deals taking place in the US. According to the latest figures from HESA (1999–00), 12.3% of HEIs income from research grants and contracts comes from UK industry, commerce and public corporations (HESA 2000:9).

Case Study

In one case, a deal between UC Berkeley and Novartis saw the company contribute 30% of the research budget for the university's department of plant and microbial biology. In return, as a government funded report put it, *"Novartis gets a first look at virtually all discoveries produced by the departments scientists, including inventions that Novartis didn't fund".*[44] William Lacy, vice provost at the University of California at Davis and a commentator on university-industry partnerships, said the key point to remember is *"that negotiations between campus and corporate officials never occur in a vacuum. A company hot to collaborate with a top academic might sign one type of deal. A campus hunting for money might bend over backward to accommodate a company's demands."*[45] The furore surrounding this deal affected Berkeley's ability to attract other funders and some academics became reluctant to get involved with the university's own spin outs.

The spinouts require a level of commercial experience and knowledge that most academic staff will not possess. However, sometimes without such expertise, universities have set up Innovation Centres, Incubators, Enterprise Programmes and Commercial Parks to facilitate their spinouts and to attract more commercial organizations to work within the university and to fund research.

One major fund raising strategy in the US and increasingly in this country is the appeal to alumni of the institute. This has proven to be very successful because alumni have had an

allegiance and a fondness for their university or as Readings would see it, for their community. However if students are encouraged to see themselves as consumers rather than as members of a community these donations decline. Readings uses the analogy of buying a car to illustrate this point. The student will feel no more need to donate to the university they attended – *"any more than a consumer, having purchased a car, feels the need to make further periodic donations to General Motors in excess of the car loan repayments"* (Readings 1999:11).

Missenden Recommends:

The Committee should take advice from those with a professional expertise in ethics and those obtaining sponsorship for research should not be given undue favour in promotion decisions.

Outstanding Issues:

■ What constraints are there, and should there be, on the use of specific sources of funding for research?

■ What could universities do to make themselves more attractive as investment opportunities for alumni?

■ Are specific sources of funding from the employers or the local community being pursued? Are possible ethical issues being explored?

■ How would any decisions made fit in with employment laws, human rights legislation etc?

The Missenden Code of Practice for Ethics and Accountability

1. All universities should have an institutional Ethics and Accountability Panel or Committee

2. Staff, students and the local community should have representation on the Committee

3. The Committee should take advice from those with a professional expertise in ethics

4. The Committee should vet all substantial donations, sponsorship and funding that the University applies for or is offered

5. The Committee should *inter alia* ensure that all sources of funding for any research carried out in the University's name are acknowledged in all publications

6. Where the Committee accepts a case for limitation on the freedom to publish it should attach an explanatory note to this effect

7. The brief of the person within the University with responsibility for attracting external 'third mission' funding should have a strong ethical element

8. The University's policy on Intellectual Property Rights should be disseminated as widely as possible by case studies and be made an integral part of job induction and training programmes

9. Sponsored research should bear a full share of the institution's infrastructure costs

10. The right of academic staff to publish research findings should be the primary consideration of any contract between industry and academia. Commercial considerations should never be allowed to prevent the publication of findings that are in the public interest or which add significantly to the body of knowledge in a field

11. The University should retain the rights of staff to publish without hindrance except where a specific written provision has been made with the agreement of all parties – to include all research students, research assistants and assistant staff involved. This should be explicitly mentioned in all staff contracts

12. Those obtaining sponsorship for research should not be given undue favour in promotion decisions

13. Universities should declare details of all investments

14. Universities should consider the creation of a register of interests for all members of the university

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