research and focus more upon the royalties and licence fees that the research brings to the department.

One of the fears that has been raised about the patenting of research is that it may clash with the academic tradition of open publication and dissemination of knowledge. Such an argument was recently considered, and dismissed, by the Office of Science and Technology who said that the 'perception that the proprietary nature of intellectual property may restrict academic traditions of open exchange of research information, and that research carried out using public funds should be freely available to benefit society as a whole'... is ... 'generally false' (Cabinet Office 1992, p. 7-8). As we will see, this is only partially accurate.

Potential restrictions upon research arise in two different ways. The first is that for an invention to be patentable, the invention must be 'new'. What this means for practical purposes is that the invention cannot be disclosed in any form anywhere in the world before a patent application is lodged at the relevant patent offices. In a recent study on intellectual property in public sector research laboratories, the risk 'of losing innovations through prior disclosure' was seen as one of the most important issues that needed to be dealt with (Cabinet Office 1992, p.15.). One method suggested to resolve this problem is the introduction of technology audits to ensure early identification of inventions. The second main restriction upon university research arises from the fact that in collaborative and sponsored research the industrial sponsor may, to ensure a competitive advantage, wish to place restrictions upon the publication of research results. In addition to placing contractual limits upon the researcher, it has also been suggested that the managerial arrangements of the release of information within laboratories be altered.

Such prohibitions on the dissemination of research-information inevitably give rise to the argument that patent law promotes and requires a form of censorship. Such an argument is, at least in relation to patents, unfounded. The first reason for this is that it is not in industry's general interest to stifle research within the university sector. Indeed, there seems to be partial recognition within certain industrial groups that the domination of academic research by specific (applied) issues may ultimately be detrimental to their own interests. The reason for this is that industry not only utilises many of the developments of pure research, but also relies upon universities for a supply of well qualified staff. The second reason for doubting the argument that patenting will censor university research is that one of the aims and functions of patent law is to provide for the dissemination of technical information: indeed there are specific provisions in the 1977 *Patents Act* which are designed to ensure that the relevant information is published.

To suggest, as the Office of Science and Technology did, that patenting will have no impact upon university research is to ignore the fact that the patenting of information will have an impact upon the research culture within universities. In addition to changes in the way research is managed, we can also expect to see that the place where academics first read or disclose information will move from traditional sites such as journals and conferences to the patent specification. There should be no reason, however, why this information should not after publication of the patent, also be disclosed using traditional methods. Another change that the patenting of research gives rise to is that the *form* that this information takes will change. The reason for this is that information takes on a different shape when embodied in a patent than when it is written up as a research paper. This is because patent claims are written for different audiences with different aims in mind: the aim of a patent is not to present a thesis or argue a particular case, but to set out and demarcate a property claim.

More important, however, is the fact that in practice patents cannot be treated in isolation from other intellectual property rights: rights which on the whole do not require disclosure of information in the way that a patent does. Often, a patent will only disclose part of the information which is necessary to produce or manufacture the invention. While the remaining information is not protected if independently created or if it falls into the public domain, the non-disclosure of know-how does mean that the particular company is able to gain a strategic advantage over their competitors. The problem that arises for the academic researcher who is working in collaboration with industry is that it may be a condition of the research grant in the first place that the information that is generated from the liaison is not made available to the public. Thus, while the patenting of research does not create problems of access to information (although there are related problems), the lack of similar disclosure requirements for trade secrecy, confidential information and works protected by copyright[9] will create problems for academic researchers if they, or their employees, do not have the bargaining power to negotiate otherwise.

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Notes

1 As the notepaper at the LSE proudly proclaims, the LSE was given the Queens Award for Export (of knowledge) in 1991.

2 One possible exception to this is in relation to the patenting of genetically manipulated animals.

3 While Cambridge University has an explicit policy that the University should not hold patents; there is requirement in relation to Research Council grants that individuals should approach the university's Wolfson Cambridge Industrial unit as to the possibility of exploitation. The unit then takes over the role of assuring that inventions are exploited. As an incentive to exploitation (and not through a belief in fairness), the University divides the royalties from the patent in the following way:

Net Income	Inventor %	Department %	University %
First £ 10,000	90	5	5
£10 - £ 30,000	70	15	15
£30 - £ 50,000	50	25	25
Over £ 50,000	33.3	33.3	33.3

Source: Cambridge University Reporter 1987 p.441.

4. It could be argued, following *Noah v Shuba* (1991) that the university has acquiesced and assigned patent rights back to the inventor. This will depend, however, on whether it has been usual practice for the university to allow academics to exploit their own inventions (as it was with the copyright in *Noah v Shuba*).

5 Section 41(3) of the 1977 *Patents Act* deals with the situation where a Research Council assigns the patent rights resulting from public research to an organisation for exploitation for little or no consideration. Any 'benefit' derived from that invention is deemed to be derived by the Crown or the Research Council.

6 See also *British Steel plc's Patent* (1992).

7 This situation may be different if the government changes university accounting procedures from a cash to an accruals basis as it is doing in many other areas of the public sector.

8 For example, in the latest round of the University Funding Committee, academics within the social sciences were asked how many patents and copyrights (sic) they had produced over the previous three years.

9 As computer programs are now expressly included within the scope of copyright protection, copyright will take on a more important role in university research. See section 3(1), 1988 *Copyright, Designs and Patents Act.*

Universities, intellectual property and litigation: A view from the sideline

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Introduction

The view from the sideline is different to that from the locker room and committee rooms. It is even further removed from the view which the players have in the game. The lawyer's perspective is akin to seeing the rules of the game and the decisions of the umpire while missing the passages of play which make up the game itself. It would be little wonder if the players ignored any comments from such a spectator. Heedless of such misgivings, it is proposed to follow the sporting spectators' tradition of giving a view no matter how uninformed or unqualified.

Intellectual property embraces a complex bundle of rights stated and protected by statutory law, common law and international conventions. It is also an area of law which is inextricably woven into the fabric of university activity. At first sight it could be expected that lawyers would rub their hands in anticipation of lucrative legal disputation. On the other hand, university advisers could be expected to wring their hands in anguish fearing the dire consequences which could reasonably be expected to ensue if their advice or procedures based on such advice are ignored or neglected.

In fact, the area has provided neither the fertile field for lawyers as might be expected nor such disastrous consequences as might be feared. Although the educational use of copyright has been the subject of much negotiation accompanied by threat of legal action, in general legal action is exceptional. In other words the umpire is not seen or the whistle heard as much as might be expected. Nonetheless, in an area of activity which has legal implications, it makes good sense to explain applicable statutory law and to warn of the consequences which might arise as well as explaining the law as it develops in court decisions. Such advice is necessarily geared to litigation as the ultimate means of resolving disputes.

The lack of litigation

Why has there not been the level of litigation or legal disputation which might be expected in the area of intellectual property in universities ? It would be comforting to answer that there has been such a degree of awareness and compliance with legal requirements that disputation has not arisen, obviating the need to resort to legal remedies. To return to the analogy of the game, it may be that the players have so thorough knowledge of the rules and are such good sports that they never infringe.

It may be close to the case in respect of educational use of copyright. Much has been done to raise awareness and introduce rules which enable the game to flow through collection agencies and institutional licences. In the area of patents the use of patent committees, usually with external expertise as well as the personal knowledge of players involved, may well explain the absence of litigation in that area. It may also be the case in other areas. However, it would be going too far to say that this is the complete answer. For a start, litigation or threat of litigation has played an integral part in raising awareness and providing impetus for dealing with educational use of copyright.

Indeed it may be that the contrary is the case. That is, lack of awareness of legal requirements as well as of rights protected together with, probably more importantly, lack of financial ability and will to take legal action have considerably restricted disputation at law. The analogy of the sporting game breaks down at this point. The umpire in the area of intellectual property is not on the playing field but has to be approached for a ruling through lawyers who charge fees and via set and time consuming procedures.

Lack of litigation is not unique to intellectual property in universities. In commerce infringement of intellectual property rights does not always result in redress by legal action. To illustrate, false use of a trade mark on items sold in a Sunday market may go undetected or be of such insignificance that, although causing anger, it does not justify the costs of legal action. However, when infringement of a level which harms business reputation or sales is detected there is sufficient incentive to take legal action as has been well demonstrated.

Important elements in explaining lack of litigation are detection of infringement, awareness of rights, and the ability and incentive to protect or exert those rights.

Detection is always problematical. Universities are places where activities can proceed in remarkable isolation. This may result in either undetected infringement or a failure to take steps to protect rights. In the former case there will be no litigation as the person whose rights are infringed is ignorant of the fact. In the latter case there may be no litigation as rights have been lost. While this may help explain a low level of litigation, it should not give rise to a false sense of security.

Detection may come from a person associated with the activity, for example, by presentation or publication of a paper, particularly where there is a lack of awareness of infringement. There is also the possibility of investigation where infringement is suspected. The skills of investigation ought never be underestimated. It is not uncommon in a court case for one side to be left wondering how the other side got the information.

It should also be said that the legal procedure known as an Anton Pillar order which allows for entry and inspection has greatly assisted those seeking to fully detect infringement and protection of their rights. In short, if lack of detection is a reason for lack of litigation, it can hardly be relied upon in all situations to support disregard or neglect of the rights in question.

Lack of awareness of rights involves both personal rights and rights of others. The former category is concerned with ensuring that rights are protected while the latter is concerned with avoiding infringements. It is impossible to state with any certainty that lack of awareness of rights in intellectual property is a factor in there being a low level of litigation in the area. However, it cannot be discounted. This is not to say that it would be better not to raise awareness in the hope that ignorance will reduce the chance of litigation. The fact is that awareness of intellectual property rights is likely to be raised in any event and there are obvions advantages in ensuring that it occurs at an institutional level.

Lack of financial resources is probably a more relevant factor. Legal action is costly and takes up a lot of time. Litigation is probably beyond the financial resources of most academic staff and certainly beyond most students. Universities may have the resources but there is a general, and mostly prudent, reluctance to use valuable resources in this way.

Persons or bodies external to the university may have the resources

but there has to be detection and incentive. The chief incentive is commercial. While not suggesting that litigation or legal disputation should be used as a barometer of commercially valuable research or activity within a university, it may well be the case that the relatively low level of legal action merely reflects lack of commercial value in university activities and a corresponding lack of incentive to take legal action.

A relevant consideration is whether or not the move towards universities becoming more involved in commercial ventures will provide an environment for increased legal disputation and litigation. It can never be assumed that any activity will lack commercial value and the efforts of universities in this area have to be expected to produce results. Whether there will be the level of commercial activity and involvement anticipated or sought remains an open question. Whatever the position, university research now has to be seen as a sphere of action where there is considerable potential for legal disputation. Lack of litigation in the past should not produce complacency wherever the necessary incentive, financial capacity and will to take legal action exists or can be expected. There are other incentives which cannot be ignored. These include taking a principled stance, conducting a test case to clarify an uncertainty or provide a warning and deterrence, protecting a collective interest (such as the interests of employees as against the employer or of students), asserting or protecting professional reputation (the vindication factor is often inherent in litigation) and pure malice (which may or may not be vexatious in the legal sense).

It is not possible to say with any certainty that lack of suitable incentive has been a large part of lack of litigation in the area. Equally, it is not possible to discount the possibility that suitable incentives will arise with increased awareness of intellectual property rights, increased commercial activities of universities, employment issues, student issues and institutional issues.

Some lessons from the courtroom

The reality is to be faced: simply because there has not been the incidence of litigation which might be expected, it cannot be assumed that this will remain the case generally or in any particular activity. More importantly, the risk of even one major case litigated is too high and costly to ignore.

Court room experience reinforces this appreciation. A good deal of the preparation of a case to present in court involves sorting ont the facts, overcoming problems caused by action taken without any thought that it may be relevant to a court hearing, and dealing with clients and witnesses whose motivations span human behaviourial quests for vindication, principle, financial gain or protection, pride, revenge, spite, defence of interests and other such motivations which underscore the general notion of justice. In court, there will usually be considerably more time spent on factual disputes and credibility of witnesses than on arguing points of law. At the conclusion of a case it will be rare to say that one side has had a complete victory.

Factors of cost and time are unavoidable. Although our court system provides that as a general rule the loser pays the winner's legal costs, the amount of payment awarded by the court will very rarely cover the actual legal costs incurred. There is also the time spent on the case; this detracts from other activities and cannot be recovered. What is more, psychological and emotional costs are caused by anxieties and uncertainties of the case (with frightening prospects of significant financial loss if the case is lost). There may well be attacks on personal reputations. Substantial mental taxation is involved in devising or responding to tactical games which are an integral part of the adversarial system of dispute resolution.

In some cases other factors sour a victory: a breakdown in relationship between the litigants where there is a subsisting relationship; lack of final resolution of all the issues between the parties; breakdown in relationships between witnesses as well as parties; and the currently increasing prospect of winning against a party who cannot pay (in which case the winner is left with his own legal costs and no enforceable compensation).

Of course, this is a generalised view and each case differs. However, as a general rule litigation should be, and generally is, avoided where possible. The best way to avoid litigation is to assume that litigation is a possibility in all cases.

Facing the fact of litigation

It must also be said that there are times where litigation is necessary or unavoidable. For example, it is no use having a contract which provides for a university to have intellectual property rights if there is a general reluctance to pursue or enforce those rights. The will to litigate in appropriate circumstances is necessary for reasons beyond the particular case.

First, astute businessmen and their legal advisers are quick to perceive a lack of will to fight to the end and will use this to advantage. This may emerge as a total disregard for the rights of the university or as a negotiating advantage in settling a dispute unfavourably for the university.

Second, lack of will to litigate can result in loss of morale within the university. Staff involved in a particular project will become disillusioned if their work is not protected.

There is the further matter of seeing litigation through to a conclusion. A university or a university member can be locked into litigation by being a defendant to an action or being joined as a third party. To illustrate, assume that the university has joined with a commercial body to undertake a project which includes intellectual property rights to which another party lays claim. The other party may sue the university directly as a defendant or it may sue the commercial body which then joins the university as a party saying "if we are liable then so is the university". The claim may be unsustainable but if there is a lack of will to see the litigation through, it may result in a settlement which is unfavourable and unfair to the university or its members.

The question of whether or not to see litigation through to the end is a matter of judgement in each case. However, it is important not to allow the costs and use of resources in one case to produce a settlement or capitulation which will adversely affect future cases or the morale within the university. An unfavourable settlement or a complete capitulation may avoid litigation in one instance only to encourage further litigation in the future.

Generally, the stronger the case the better the settlement. Being aware of the legal requirements and following advice and procedures is essential if this is to be achieved. Further, where there is a strong case the threat to litigate ought not to be hollow but should be backed by resolve to litigate unless the other party capitulates or settles on terms favourable to the university.

Of course there may be other relevant considerations. For example, what course is to be taken where the infringement is made by another university or a member of staff ? Assume that a university has committed valuable resources and capital to a research team which has produced work of significant commercial or professional value in return for ownership of the intellectual property rights of the project. There are confidentiality agreements and perhaps even a restraint covenant preventing any member of the team using the intellectual property elsewhere. The person in charge of the team may become dissatisfied with the deal at the university and approach another university seeking a better deal, or another university may see the advantages of the team for its own ends and approach the team leader. No doubt it would be undesirable for universities to be contesting each other in the courts. However, if the matter is not resolved in accordance with the terms of the original agreement then inevitably there will be adverse effects on all such agreements. The point may be further illustrated by assuming that the first university has a strong commercial interest in the project whereas the second is trying to establish its reputation in that field and is willing to trade commercial interests with the team leader or the team to achieve a result in reputation alone.

Again, each case will require judgement taking into account all relevant matters. Hopefully, the institutions will resolve the matter by mutually satisfactory arrangements. However, the issues are such

that it may be preferable for universities to collectively establish guidelines to deal with such problems rather than allow the possibility of litigation which could adversely reflect on universities as a whole.

Regardless of such problems, the attitude which ought generally be adopted is that there is a possibility of litigation at all times together with a resolve to litigate if this becomes necessary or unavoidable. This is not to say that a litigious attitude should be adopted but rather that a non-litigious reputation should be avoided.

Some cautions on intellectual property

While it is considered very important to raise awareness of intellectual property issues and to establish guidelines and procedures to accommodate the diverse interests and legal principles involved, some cautions should be given. Let us consider four.

First, it is possible to go too far in this area of activity. Academics will fervently believe in their work, as they should. Sometimes they will get carried away with its commercial potential, the need for confidentiality, the need to protect by contracts or registration and the prospect of the intellectual property being lost by neglect. Sometimes they are right. However, the university is no different to the rest of the community. Patent attorneys can attest to the fervour with which inventors will urge the need for legal protection heedless of reality.

Moreover, there are other factors at play in the university setting. In many ways "publish or perish" has its counterpart in "patent or perish". There is always the danger of a tangible indicia of performance being seen as the production of a list of intangible assets in the form of registered patents, designs or trademarks. Where a company has been formed as a commercial arm of a university such a list may be used not only to indicate performance of the company but also to be given a value as intangible assets of the company. Experience of recent times of liquidators and receivers is that they often meet this item in a company's balance sheets only to discover that the value is not there. The result is a substantial if not complete writing off of the value claimed.

The opposite may occur. For example, a researcher may be so involved with research or of a view that the research itself is the only important consideration that matters such as protection of the information by patent, registered design or confidentiality agreements will be ignored or neglected. This ean make their work prey to commercial interests or exploitation by their more entrepreneurial and ambitious peers. Obviously, if there is a dollar to be made the university would have an interest in such protection. There is a further interest in having staff promoted by their own work rather than the work of others (this does not necessarily have to be illegal or unethical).

This area requires more than guidelines and procedures. It requires professional acumen and flexibility without which all awareness raising and regulation will be to no avail.

Second, a university needs to have a satisfactory way of dealing with contentious areas of intellectual property whether it be ownership, recognition, costs of registration, decisions on litigation or the like.

Where a contentious issue arises in the university setting it seems that everyone has an opinion, an interest which may be affected, an agenda (sometimes declared, sometimes hidden, sometimes transparent, and sometimes mistaken as an agenda rather than recognised as a concern for high principle) and the facility or ability to prevent any settlement of the issues. More often than not the arguments advanced are not fully informed, confuse the issues, demonstrate opposed stances on fundamentals and are advanced with conviction, emotion and at times an appeal to logic and reason which may be seen as continuation of the work of the Sophists or Gaufred de Vinsauf.

Seeking or giving strict legal advice, as though all things were equal, in such circumstances is unlikely to assist resolution of the issues. There is the added danger of seeking legal advice more to avoid the real issues than to gain something which would resolve the matter. There is no magic in legal advice and ultimately the advice has to be incorporated in decision making. Whether this is done by consensus or otherwise it must be done to avoid circularity and the risks involved. In other words the university has to be prepared to make hard decisions or all of the treatment of this area will be futile.

Third, there is a temptation to resolve matters by using the legislative or regulatory power of the institution. This provides a clear focus and an impetus for making decisions. However, it is one thing to decide on the written word and another for it to have any worthwhile effect. If it is yet another piece of regulation in a vast body of regulation the odds are that it will be rarely used and soon forgotten.

Here too the ability and will to enforce must be present. As is the case with legal advice, it is not sufficient to pass legislation or regulations and consider that the object has been attained. There must be the professional acumen and flexibility to make the systems work to achieve clearly stated and desirable goals.

Fourth and finally, care needs to be taken with legal advice on statutes and common law in this area. Many points require judicial statement and there is always the danger that a case will produce differences which distinguish it from established legal authority. Further, many of the legal provisions are subject to agreement between parties and contractual issues loom large in intellectual property.

Contracts are not without difficulties: there is a tendency to use precedents or pro formas which may be ill suited to the particular task; they are often not read thoroughly by the persons involved to ensure that the legalities achieve the desired results; they are sometimes incomplete, not providing for foreseeable consequences or developments; at other times they are too complex; and there are instances where contracts are fundamentally flawed. An example of the latter is where a university company purports to have a confidentiality agreement with a member of staff of the university but there is no privity of contract to make it enforceable. All of these difficulties ean be overcome and there are benefits of contracts that make them a necessary part of dealing with intellectual property. What is needed is a clear idea of what is being sought and careful attention to detail.

Conclusion

Objection may be taken to an approach which is based in litigation. Certainly, there are issues in intellectual property in universities which do not raise the spectre of court proceedings. However, there is hardly any area of activity which is not capable of being litigated. If the possibility of litigation is always borne in mind it may serve as the stars served ancient mariners: to guide along the right path to the desired destination.