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Intellectual property in the context of research-industry collaboration

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Introduction

This article considers the legal and social implications of the collaborative arrangements being made between research institutions and private firms for the development of new technologies. It focuses on the intellectual property policies and strategies that may be developed in this area.

It identifies the forms this collaboration may take, and discusses in turn the disposition of intellectual property rights between the employer and employee, and the customer and contractor, in the context of academic and other public research institutions.

It is interesting that the promotion of these arrangements should find a place on the national agenda at this particular time. A 'consensus' is emerging in favour of intensifying high technology development and, to this end, of applying public research institutions to the industrial and commercial potential of their work. Someone familiar with the structure of the Australian economy and its record in high technology development might remain unmoved by the current fashion until he or she sees the evidence of an increase in investment in this area, but it would be ungenerous not to acknowledge the recent efforts of various government departments in generating interest in high technology development through a series of conferences, enquiries, and the like. The governments of Australia are taking a more and more active role in the promotion of new technology, no longer content to leave the management of technological change to industry and the market[1].

It goes almost without saying that co-operation between the 'state' and industry operates on several levels. For example, governments provide much support for high technology activity through a range of general policies concerning taxation, tariffs, energy, communications and so on. Within the legal sphere, support and facilitation take the form of property laws, laws of economic association, and even, on one interpretation, liability rules, licensing schemes and other forms of regulation which settle responsibility for the costs of high technoology activity. This paper however concentrates on the direct contractual arrangements between the public and private sectors, rather than on the sorts of policies of government which provide a backdrop for high technology activity.

In analysing the progress of high technology development, several stages can be identified, beginning often with basic scientific research[2]. High technology may originate in pure science insights and techniques, moving on to strategic, mission-oriented research, designed to solve industrial and social problems, the products of which are in turn applied to find solutions to the specific, short-term needs of industrial undertakings. Prototypes of processes and products are then developed and, if feasible, production and distribution are mounted on a commercial scale. In fields such as bio-technology, the firm distinctions between research and production break down, as science itself gears up on an increasingly industrial scale, and high technology development becomes much more an integrated than a serial activity[3]. It continues however to require a variety of inputs, and so the conditions may vary under which various forms of capital and labour are made available.

To ensure greater co-ordination between research and production, collaborative bodies have been established to identify areas of need and steer programs designed to meet those needs; a good example is the CSIRO's Advisory Council. Many of these bodies do not create essentially legal relationships; it is not common in this country for their deliberations to be subject to the administrative law standards of due process and *intra vires*, for instance. (Comparison can be made with the United States where it could be alleged in a suit against UCLA-Davis by the California Rural Legal Assistance that research into the mechanization of agricultural production was contrary to the University's charter[4].) This is not to say that the legal capacities of those research institutions which are statutory authorities do not require attention; so too the scope of the memoranda of participating companies.

It is of course the closer, project associations between researchers, industrialists and financiers, which have the most concrete legal consequences.

Forms of association

These associations have been of several kinds. Particularly in the United States, large private corporations have provided research centres with funds for basic research work[5]. And of course government, through a variety of agencies, has provided funds for such work — in Australia, most of the money for fundamental research comes from the public purse, going to the CSIRO and to the universities.

Mission-oriented government agencies and industry associations provide funds for generic solutions to problems facing sectors; major sources of this complexion in Australia are the Defence Department, the National Health and Medical Research Council, and the statutory agricultural produce corporations. Unlike the United States, most of this money goes to public research institutes and universities. Finally, private and public firms may act as customers and outlets for applied research. In Australia, it seems, much of this applied research is actually done in-house, if at all, and it has been rare for firms to contract out to public institutes and universities; rare too for research institutions to find commercial firms to finance and market inventions. It is this pattern which is meant to change.

In the range of legal forms available for such research and development activity, the parties may be involved in an employment relationship, as independent contractors, in a joint venture, in an unincorporated association, in a partnership, or as members of a company or a statutory authority.

As essentially heterogenerous participants in a sophisticated, purposeful undertaking, the parties are likely to seek a form which creates sufficient identity and security for the undertaking but at the same time allows each of them some flexibility and autonomy; in other words, the parties need a form that puts the undertaking on a footing to attract resources but which allows them room to perform their different functions and maintain their individual 'integrities'. For those constituting the undertaking, then, the lawyers list several considerations: (1) maintaining the identity and continuity of the undertaking so as to bind the participants and to present a face to outsiders in order, where need be, to attract loans, subscriptions, grants, tax allowances and the like, (2) controlling and managing the undertaking, its costs, schedules, and membership, (3) preserving the independence and autonomy of the participants in the conduct of their part of the operation, establishing their individual shares, protecting personal assets, and limiting joint and several liability for tax, harm to outsiders, regulatory offences (including restrictive trade practices) and so on, and (4) adapting the undertaking to changing circumstances and dissolving the undertaking once the project is at an end[6].

These considerations establish some very practical criteria by which to choose the form such arrangements are to take. To the extent that the parties are willing and able to agree, they may best translate these considerations in to practice through the express terms of a contract. But care will be required in the formation of the relationship, for, in doing so, they may constitute sufficient of the ingredients of a distinctive form of economic association recognised by the common law or by statute, thereby attracting obligatory incidents to their relationship and perhaps rendering inoperative some of their own provisions.

It is here that the advice of commercial lawyers needs to be taken. For example, a 'partnership' allows the parties freedom to regulate their internal affairs and requires little in the way of documentation, but a business carried on in common for profit involves joint and several liability and a sharing of proceeds and assets. A company limits the liability of members, and provides continuity in legal personality, but the affairs of companies, especially public companies, are the subject of substantial external regulation, and their proceeds are taxed twice, once in the hands of the company and once in the hands of the shareholders or employees; capital gains, however, through the increase in value of share equity, are not taxed. (The current tax reforms indicate that such conditions are subject to change.)

The American venture capitalist, Johnson, charts how the form and the membership change as the technology progresses from initial research to industrial operation[7]. In the initial stages of invention, the collaborative relationship is likely to be one of 'doer' and 'provider', the exchange of skilled services for support, taking the form of either an employment contract or a joint venture agreement. As the activity proceeds to development and commercial exploitation of the invention, a partnership or private company may be formed, and at some stage the firm may go public or hand over to an established corporation.

In the discrete, contractual association, the terms of the association, including the distribution *inter se* of intellectual property rights, might largely be regarded as a domestic affair. However there is a second set of 'external' considerations, that conceivably might also need to be operationalized. Given the importance of high technology activity to the national interest, it may sometimes be an issue whether such matters as the distribution of intellectual property rights should be left wholly to the parties or should be regulated according to an appropriate public policy.

In constructing a public policy about the distribution of property rights, several criteria vie for attention[8]. One that remains compatible with the parties' own view is the freedom with which the participants in high technology activity may determine their rights and obligations. A policy might place a premium on distributions freely made, not only because freedom is valued itself but because it is regarded as the best means to further some external goal such as research efficiency. Still, it might be conceded that in some cases freedom of choice is inhibited by 'transaction costs', lack of information, or lack of bargaining power, and that some intervention is justified in order to overcome these inhibitions or to supplant the choices so constrained. The policy then needs a criterion of its own by which to guide government intervention. In relation to research and development, the measure most often cited is the level of innovation, and the legal regime is accordingly judged by its capacity to act as an incentive to innovation. Opinions can differ within this approach about the appropriate recognition and location of intellectual property rights. But the formulation of a policy is further complicated by the claims of such other legitimate considerations as 'reward for meritorious work' and 'the public interest'. While it can be possible to reconcile the various considerations — rewards for meritorious work may encourage innovation, and innovations may promote the public interest — sometimes conflicts will be encountered. There seems to be special concern about conflict where one of the parties is public or academic in character and the other is private or commercial.

The employment relationship

The distribution of property rights between employer and employee is of course not a new question, and so a considerable body of law is available for the guidance of the parties. The common law has given precedence to the express terms of the particular contract of employment. Employers have frequently availed themselves of this facility in obtaining the agreement of their employees to the assignment of intellectual property rights to the employer. In the absence of an express term, the common law has identified an implied term to the effect that the employer is entitled to the benefit of inventions made in the normal course of employment and so, for example, made in circumstances where the employee is employed to invent or directed to invent. Additionally, as part of an implied duty of fidelity to the employer, the employee is obliged to disclose any inventions he or she has so made and to respect any technical information of a confidential kind obtained in the course of his/her employment. The rights to inventions not expressly defined, or implicitly owed, or taken up by the employer, reside with the employee.

In Australia, there is no real legislative interference with these common law rights. The *Patents Act* 1952 (Cth) does not require the application be made by the inventor, and patents are regarded as a form of property that may be freely assigned to another or for which another may be licensed exclusively or non-exclusively to work the invention.

Within such a legal policy, the allocation of any rights to inventions will depend largely on the employer's attitude: ordinary employees, if they want special terms, will have to rely on the goodwill of the employer or the strength of their

organization, and few Australian unions have aggressive patents policies, though FAUSA is presently settling a policy. Perhaps a few special employees will be in a position to bargain individually; local scientists, becoming more conscious of the financial rewards for inventiveness, may seek to negotiate special arrangements with their public employers or threaten to go elsewhere[10]. (Some local employers, such as the universities, would probably need greater discretion built in to their employment powers if they were to accommodate these demands.)

If Neumeyer's survey in the United States is any guide, and many of the companies surveyed are multinationals with branches in Australia, large corporations are likely to have firm internal policies[11]. Large public employers are also increasingly formulating policies. In Australia the key employers to consider are the CSIRO, the universities, and such government instrumentalities as the Defence Department and Telecom. To the extent of the capacities conferred upon them by their enabling acts, these institutions may legislate to regulate intervention rights internally rather than rely merely on contract. Increasingly they are reserving the right to assume inventions, writing internal rules regarding the reporting of inventions, the approval of outside work, the sharing of proceeds and the like[12]. A notable concern is the attribution of work done by employees while on leave with other public institutions or with private firms.

Predictably, the views in the literature differ about the appropriate distribution between employers and employees of rights to inventions. For example, the economic advisers to the Commonwealth Industrial Property Advisory Committee argued against employee rights[13]. They were not of the opinion that such rights would act as an incentive to greater inventive activity; it was not apt to select out individual employees for benefit when it was frequently the case that inventions were a corporate activity, requiring the contributions not only of other employees but also of the employer who organised, directed, and subsidised the activity. If employees were to be entitled to hold inventions, they might become reluctant to exchange information and to co-operate with colleagues within their organisations; they might also concentrate artificially on patentable and otherwise appropriable inventions. Even if they were permitted to assume the rights, they would need to find a backer or developer, such as their employer, in order to put their invention to use. So it seems, as Phillips points out in his book, that it is considered preferable in these circumstances to use the patent as an incentive to those who organise inventive activity and who exploit inventions commercially, rather than those who do the inventing[14].

It is instructive to compare Australian legal policy with that of comparable countries. In the United Kingdom, the 1977 *Patents Act* attributes service inventions to the employer (that is, the inventions made in the course of normal duties or by special assignment or where a special obligation is owed to the employer to further his or her interests in any way), but requires compensation to be paid to the employee if the invention rights have been assumed by the employer for an inadequate share of the benefits which derive from the invention. Within this scheme, the options of public and private employers have converged more recently as a result of a Cabinet direction to the British Technology Group (the successor to the National Research and Development Corporation) not to reserve title to inventions made in publicly funded laboratories and universities, but to allow individual inventors and their institutions to exploit them subject to some limitations concerning the national interest.[15]. The Conservative Government hopes thereby to encourage scientists to go into partnership with industry, the new policy giving greater freedom to research institutions and, where they do not assume the rights, their employees to assign rights or grant licences to industry.

In the United States, common law rules similar to those in Australia have held sway, except that where the Federal Government provided the funds for the inventive activity, according to a 1950 Executive Order, it assumed title in the invention. With the passage of the *Government Patent Policy Act* in 1980, the public research institution is now obliged to assign rights to the employee, though remaining entitled to require either a royalty payment or an exclusive licence to work the patent for its own purpose; the public employer is also to enjoy a 'march in' right where the employee or his/her assignees do not exploit the invention[16]. In the United States, there have been some spectacular cases of scientists moving out of the universities to become operatives and shareholders in high technology companies, especially in California[17].

In West Germany, the 1957 legislation recognises a distinction between 'service' and 'free' inventions. Service inventions may be acquired by their employer on payment of compensation to the employee; employers are also entitled, as in the United States, to a non-exclusive licence (or 'shop right') to work a free invention. Public employers may choose to take an equitable share of the profits from the invention rather than rights to the invention itself; indeed, universities must obtain the agreement of their employees if they wish to obtain rights to the invention rather than royalty payments.

What is the basis of the argument in favor of employee entitlements? It seems doubtful whether rights rather than remuneration of some kind acts as an incentive to more intense inventor activity. The exception perhaps is where the employer is not likely to pursue and work the patent itself. If it is the employee who has to exploit the invention, then he or she may require title in order to provide his/her external backers with some security. This leads the paper into the general question of relations between independent contractors.

The customer/contractor relationship

From the parties' point of view, without a clear body of law on which to fall back, the terms of their particular contract are very important if uncertainty and dispute are to be avoided. The parties must first decide whether it is worth their while obtaining the protection of a proprietary right (both locally and overseas) and must choose the form of proprietary right appropriate to the invention from the range of intellectual property rights available. In part, the judgment they must make is legal, for the parties must determine which of the intellectual property concepts fits the invention and in the fields of information and biotechnology this is not always settled. The judgment must also be commercial: a confidential agreement, for example, may be less expensive (and more secret) than a patent and licence if the customers are going to be restricted to a few firms well known to the contractor.

Then, their contract needs to locate title to the invention which is to form the subject-matter of the undertaking, and to settle the rights of use and disposal of that invention, together with the obligations of disclosure, application and defence of the proprietary right, confidentiality and the like. It should also make comparaable provision regarding additional inventions that may emerge from the undertaking ('serendipity' clauses), modifications and developments to the invention that may be made by the parties independently, and know-how, trade secrets, etc. that may be revealed in the process of working on the invention.

The events leading up to the formation of a joint venture must also be regulated carefully. In the case of patentable inventions, care must be taken to avoid prior publication or public use of the invention. Generally, publication may only proceed after an application for a patent has been made; in the United States however a period of 'grace' after publication is allowed. Conditions must also be established under which potential parties are entitled to examine the invention and learn secrets in order to decide whether to collaborate.

Should the customer or contractor be allowed the intellectual property rights? In a survey of the patents policy of public research institutions in Australia, Tisdell argues that it is necessary to assign title or grant an exclusive licence to industry in order to attract the resources to exploit an invention[18]. In the first place, this will usually require the institution and/or the employee inventor to obtain a patent for itself. Not all such institutions have been vigorous in this regard; in 1980, an independent review felt compelled to urge the Department of Defence to adopt a patents policy. According to a 1977 survey, several universities favoured the publication of discoveries rather than their patenting[19]. However, it seems increasingly the practice of CSIRO (as an independent review recommended in 1977) and the big universities is to pursue patents.

The the institution must decide whether to assign the patent or licence the industrial firm exclusively; this may well be the condition required by industry if it is to participate; the Director of Austgen-Biojet recounts that his company needed to negotiate its contract with the University of NSW's Unisearch company in order to secure the property right necessary to attract venture capital.[20]. In the case of funding for basic research, the corporation may require the right to exploit any invention that may emerge with commercial potential. In the more common case, the research institution will have an invention at or near prototype staage and be in a position to assess firms interested in licences in this light; an alternative is to consider transferring rights to a company established for the purpose, the institution, maybe through its own research company, or the individual scientist taking equity in the new company[21].

Is a grant of a monopoly to a private firm too great a price to pay for resources? Theoretically, the institution may place conditions on its assignment or grant. The firm may be required to apply for the patent to which it is entitled, the institution giving it all the co-operation necessary to obtain that patent; it may be required to work the patent with all due diligence or the institution will resume it, and license others. Indeed, scientists in one instance in the United States sought to enforce an obligation to work a patent against Johnson and Johnson[22]. It ought also to be recalled that the monopoly conferred by the patent is only a limited one, as the patent runs 16 years or less, and the details of the invention become available on the public record. Paradoxically, it has been argued that a non-exclusive licence would allow a firm to obtain an invention too cheaply, as barriers to entry into the particular market for the technology might in any case prevent others from competing.

What return should the public sector receive for its grant? The public institution may of course demand a fee or royalty for its grant of rights; great care must then be taken to specify the basis on which proceeds from the application or sale of the invention are to be calculated and distributed[23].

Tisdell opposes the idea that the institution require a fee or royalty payments, arguing that these represent a 'dead weight' economic loss that simply adds to the total cost of realising inventions. Concerned though about the international distribution of the income generated by the invention, he suggests that the Australian public may do better in some situations if the institutions discriminate in favor of local firms rather than passing the benefits to foreign-owned and overseas companies, though at the same time seeking out firms that can export because the local market may not meet the expense of realising the invention[24]. Birt noted that at least half the recent contracts were with foreign-owned firms[25]. The CSIRO policy gives consideration to the conditions under which overseas and foreign-owned firms are to be licensed; when contracting with companies overseas, the ANU has retained rights to the production and marketing of the invention within Australia[26].

Distributional concerns

While the public sector provides much of the resources for research in this country, training scientists, paying for plant and equipment, and so on, economists such as Tisdell argue that the public will enjoy the best return simply if the inventions reach the market and are put to use. To achieve this, the know-how and risk-taking of the private sector are often required. If the institutions were not dependent on the private sector for the production and the marketing of inventions, it would be difficult to determine what reward that sector should receive for its part in the realisation of high technology.

Perhaps a distinction can be made between those cases where the public purse funds the invention to the prototype stage and carries much of the risk, and those where industry assumes much of the risk. Given, as the economists characterise them, the uncertainties, indivisibilities and inappropriabilities of pure research, the burden of this background exploratory work is customarily carried by the public sector. Much of this work is in fact not patentable, but it would seem tempting for a public research institution to generate some additional funds where it was, as did Stanford in the case of the Boyer-Cohen patent over a basic gene splicing technique.

In Australia, much of the strategic as well as the pure research is funded by the public sector, and the public funding bodies such as the ARGS and NHMRC reserve rights to be consulted about inventions they fund, usually in public research institutions such as the universities, and to take up shares in any intellectual property that results[27]. The CSIRO policy accepts that it may have to grant an industrial collaborator 'exclusivity or privilege' only in a minority of cases where the company contributes substantially to a project in technical or financial terms (and certainly not where the company only sponsors a minor extension to an established and ongoing program or project).

The public contribution may extend to the provision of 'seed money' to get an invention working. Now, as the federal and state governments seem increasingly willing to provide grants in programs such as the National Biotechnology Program for collaborative projects, it will be interesting to see how free the participants are to be to allocate intellectual property rights. In a more indirect relationship, it is unlikely that the Federal Government will reserve any rights where it affords the 100% tax relief to high technology investments by licensed venture capital companies (though government authorities might take equity in such companies). A closer parallel perhaps is the well-established Industrial Research Development Incentives Scheme: it has become the practice for the Commonwealth not to require a licence or royalty in relation to inventions made through grants under the scheme.

An interesting comparison may be made with the United States where the Government has been able to contract out much research and development to the private sector. The Kennedy Memorandum made it clear that the Government retained rights where the Government was the main activist in advancing the technology, where the technology was to be put to public use, and where private rights would mean that a company could dominate the field[28]. The 1980 legislation reverses this policy, allocating title to the contractor if it is a non-profit organization or small business (which in turn may assign the title or grant a licence to others) and granting exclusive licence to other contractors in the fields of use they nominate. The Act empowers the Government nevertheless to refuse or resume an invention on public interest, national security, or anti-trust grounds.

Is it simply recompense that the public requires? Proprietary rights are also a means of controlling access to an important new technology. In certain quarters, there is concern about potentially fundamental and powerful techniques being controlled by a private interest, and there is a related concern about public research being channelled into areas of a commercial character. History shows that monopoly rights may be used to charge high prices for essential goods, to work inventions to suit sectional interests, and to discourage potential competition with existing products[29]. If a proprietary right may be obtained over certain inventions, funds may be channelled away from work that is not readily appropriable and commercial but still provides a benefit in the form of public or free 'goods'.

If research institutions and their scientists are free to trade rights to inventions, it is feared by some that professional ethics will be compromised. Researchers will be required to keep discoveries secret until industry has had time to examine their commercial potential and to apply for a patent. Tempted by the provision of funds for research or an opportunity to share in the commercial proceeds, scientists and their institutions would no longer be ready to exchange knowledge freely with their colleagues. They might concentrate unduly on lines of research that attracted their commercial sponsors and favour collaboration with firms in which they had interests. They might become implicated in sharp and risky practices. Concern of this kind has recently been expressed in Australia[30].

Such fears have led a Committee of Deans of prominent American universities to publish a declaration of policy about collaborative work[31]. Locally, several universities (e.g. Macquarie) have built such concerns into their patents policies. According to the Deans, agreements should be constructed in ways that do not promote a secrecy that will harm the progress of science, impair the education of students, interfere with the choice by faculty members of the scientific questions or lines of inquiry they pursue, or divert their energies from teaching and research. (As to the form of collaboration, there is an increasing tendency to establish research companies to act as a 'buffer' between academics and commerce, as well as a source of expertise in contract negotiation and supervision.)

The public funding body, or research institution, may exercise discretion about the type of work it will support or the firms with which it will collaborate. There have been calls to open that exercise of discretion to public scrutiny: details of collaborative projects, including the nature of the academics' commercial interest, should on this view be placed on the public record. Representative committees should be established in these institutions to monitor research projects. This approach may conflict however with the pressure to maintain confidentiality. For example, the details of the project and the name of the University of Adelaide's industrial collaborator under the National Biotechnology Program have been withheld for commercial reasons[32].

It may not be desirable to ask a scientific or economic body to choose between research projects on such social criteria as the labour displacing or gene manipulating potential of a technology. To do so either removes some critical choices about the course of technological change from public scrutiny or it embroils such bodies in political controversies. These are choices better made in the policy realms of government, questions, for instance, in the design of the whole patents system. Already the *Patents Act* does not permit certain medical techniques to be patented[33], and the Federal Government has the power to assume the use of others related, for example, to the national defence. It has been pointed out more than once that if the research institutions refrain from patenting and licensing inventions, then others will simply 'free-ride', assuming control by patenting modifications and developments on public inventions.[34]

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32. J. Ford, 'Seven Research Groups Receive $4.5m', *The Australian*, 4.1.84, p.16.
33. Whether there should be a trade in techniques of creating higher life forms will increasingly become a social issue; see for example, N. Tonti-Fillipini, 'Profit motive stirs the in vitro debate', *The Australian*, 28.3.85, p.9.
34. Ford reports that Australian universities have been slow to patent their research: since 1973, 272 patent applications have been made, 93 successfully; J. Ford, 'Universities slow to patent their research', *The Australian*, 30.1.85, p.10.

Coming up with bright ideas: Women in academia

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The question: "Why so few?"[1] has now been asked for some decades[2] and it has meanwhile become common knowledge that there are few women in academia. Surprisingly there are still so few despite the debates, the legislation, and the equal opportunity promise.

One should certainly be more surprised in 1985 than one might have been in 1975. The pool of female undergraduate students has become very much larger now than it has ever been. The female retention rate for postgraduate work and tertiary employment, if it had only remained at the same percentage as it had been two decades ago, should have resulted in some redressing of the balance, some equity. But it has not done so[3]. Female undergraduate students have largely remained a welcome clientele for the maintenance of largely male staffs — without demanding anything further from the system which they now support to the tune of roughly 46% of enrolments.

Many of the reforms from above, though necessary steps and overdue responses, must be regarded as failures: women do not take up an equitable share of leadership and responsibility roles in the public and private sector now and they are certainly under-represented at universities and colleges. There are obviously many hurdles and 'critical filters' which have not been removed despite remonstrances by university administrations. How can tertiary institutions claim today that they are 'equal opportunity employers' when they often continue to have such poor records of female employment at lecturer ranks and above and of the hiring of women? How can one be happy with the fact that a considerable number of staff and students (male and female) at tertiary institutions have acquired a consciousness of covert and overt discrimination? How much has such knowledge really assisted in eliminating discrimination when employment patterns continue to remain unequal, when women continue to be found at bottom rungs of hierarchies, in positions of subservience, and in positions of guest performers with limited contracts?

Despite some genuine attempts at change, it is doubtful if at present anything noteworthy is happening that specifically aims at tackling issues of discrimination at the level of everyday life. Such issues of discrimination discussed in this paper concern events that are not quantifiable and easily measurable. They are qualitative in nature, often hidden and indirect, i.e. covert, and minute within the totality of interactions, structures and events in tertiary institutions, i.e. micro-level events. They may, by themselves, also be mundane and petty. I wish to refer to some of them and then suggest strategies for overcoming them[4].

Associate Professor D.C. Stove announced in an article in *Quadrant* in 1984 that there is no discrimination against women. He claimed that philosophers at least never notice the sex of their colleagues (his department only employs men). In his opinion, philosophers would not be able to tell or care about the difference between a broom-stick and a human being as long as either could do the job[5]. Understandably, there is a reluctance generally to pin large scale theoretical constructs on petty events and behaviours. Nobody wants to be petty. We all experience frictions in our working life. Any discriminatory experience does not make for good conversational material at the best of times. This reluctance to identify seemingly spurious and accidental behaviours as a consistency of prejudicial attitudes is much to blame for the notable lack of change at micro-level. Here, discrimination goes on daily, almost unimpeded in many cases. Intentionally or unwittingly, such acts of discrimination are often directed against women.

Many acts and behaviours, verbal and non-verbal, have two clearly definable goals: to silence women in academia and