

Intellectual Property Rights

IPR is an acronym that hardly needs to be expanded nowadays. Everyone, who matters in scientific circles, is talking about intellectual property rights and the importance of protecting scientific discoveries, with commercial potential, in a tight maze of patents. In any discussion on collaborative agreements between different institutions, public and private, the first question asked is: 'Has our IPR been protected'. In seminars and meetings on IPR, speakers expound on the technicalities of patent protection, the importance of valuation of intellectual property and the need to ensure that 'inventors' (and their institutions) get a substantial piece of the cake of commercial success. At times discussions on IPR turn so turgid and far removed from science, that I cannot help drifting back to simpler times. There was a time when many naive scientists associated patent offices only with the body in Switzerland, which provided shelter to the young Einstein as he worried about matters which were to become important (but unpatentable) in the future. There was a faint air of romance in the practice of science and there were still scientists who might be described as Alice was by Lewis Carroll: 'a child of pure unclouded brow and dreaming eyes of wonder'. People were drawn to science for differing reasons. Max Perutz said it well, in his review of Peter Medawar's book, *Advice to a Young Scientist*: 'It seems to me that, just as the Church did in former times, science offers a safe niche where you can spend a quiet life classifying spiders, away from what E. M. Forster called the world of telegrams and anger. To the ambitious poor, science offers a way to fame or reasonable wealth that needs no starting capital other than good brains and energy.' In reflecting on the transformation that has taken place over the last few decades, Perutz says: 'Young people entering science now need more talent and determination to make their way than they did in the 1930s. . . . Good science is no rose bed, but the romance is still there. The thrill of discovery outweighs the drudgery, the despair at one's inadequacy, the fight for financial support, the setbacks and mistakes, the long hours, and the nagging fear of being overtaken. A discovery is like falling in love and reaching the top of a mountain after a hard climb all

in one, an ecstasy induced not by drugs but the revelation of a face of nature that no one has seen before. . . . A true scientist derives this feeling not only from his own discoveries but also from those of his colleagues.' In a more down-to-earth vein Perutz notes that 'research is supported by the state and by industry not primarily to finance such expensive ecstasy but in the hope that it will produce useful results. During the last ten years there has been much discussion about the proportion of funds that ought to be allocated to basic and to goal-oriented research and it has become difficult for young people to decide which way they should turn, especially since it is much easier to get funds for the latter'.

Liberalization and globalization have dramatically altered perceptions about science and its practice in India. The unabashed drive to patent and protect every conceivable scientific advance, no matter how incremental, has now reached a ridiculous level in the West. American and multinational companies never known for moderation and thoughtfulness, when commercial interests are involved, have set out to fence vast areas of science under the guise of protecting intellectual property. Discussions rage (and the only beneficiaries are often patent attorneys) on whether organisms and genes, surgical procedures and widely known methodologies can be patented. The public spectacle of Celera Genomics Corp., a private company, and the US National Institutes of Health led consortium making claims and counter claims on the human genome, is an indication that many bruising IPR battles lie ahead in the area of 'biotechnology'. In some areas, institutions frown on their faculty freely parting with research results and materials. The recent discussion on transgenic mice (*Science*, 2000, 288, 255) highlights the legal hurdles that researchers may eventually have to cross in the conduct of their research. The attempt to patent turmeric uses and basmati rice illustrates that the IPR protection area can turn into an expensive theater of the absurd. In an article entitled 'Patent Absurdities' Seth Shulman asks: 'Is the delivery of health care a public service or a business? Should patent owners and their lawyers profit from carving up medical knowledge into privately held parcels?

Which aspects of medicine must be held in common for the greater good?' He makes the telling point that 'even a nation that champions private property can condone a national park system that preserves some land for shared use. Unlike land or other forms of tangible property, knowledge is not depleted by use. On the contrary, books, software programs and medical procedures lose their value and utility when they are *not* used. The development of new knowledge often requires a significant initial investment of capital, and of course those costly efforts merit recompense. But unlike traditional assets, once a new piece of knowledge exists, it incurs virtually no marginal costs from its ongoing use and dissemination'. Shulman concludes by asserting that 'unless society tackles the issue head-on, the privatization of knowledge assets will choke productivity, magnify inequities and erode our democratic institutions' (Shulman, S., *The Sciences*, Jan./Feb. 1999, pp. 30-33).

But, the world of IPR and commercialization of scientific success is largely one-sided and Western-dominated at present. There has been some pressure to ensure that inputs into science are transformed into useful products in India. Scientists, particularly those in national laboratories are being encouraged to patent before they publish. The most sought-after patent is, of course, a 'US patent', which costs a fairly sizable sum of money to file. Institutions and agencies are only too happy to underwrite these costs as we are after all engaged in the important business of protecting 'intellectual property'. Once granted, the holders of US patents are as proud as their counterparts who flaunt papers published in 'high impact journals'. The fact that most patents lie unread and unlicensed is usually conveniently forgotten; the triumphantly trotted out lists of patents often only document assets, whose value is purely notional. A large number of patents which

are filed do not even have a chance of attracting a potential licensee; they are like the many papers in the literature, which lie buried, unread by anyone. Why then is good public money spent on protecting worthless 'intellectual property'? Presumably, this is done because there do not exist internal mechanisms in many laboratories for technical and commercial evaluation. Patents have also become a device by which considerable amounts of irrelevant work are masked under a camouflage of potential utility.

The endless discussions on protecting IPR mask a troubling question: Do we have a great body of 'intellectual property' being generated that merits protection? Disturbingly, many discussions centre on protecting 'ancient knowledge' and 'indigenous resources', that often lie unused, from external predators. Few focus on the fact that there needs to be greater emphasis on supporting internationally competitive research in our laboratories. Indian academia and industry have in recent times, been taking hesitant steps towards collaboration, with match making often facilitated by carrots proffered by Government schemes. However many agreements have run into rough weather over potential IPR clauses. This is rather like collaborative research, which flounders even before the first experiment is performed, because of disagreements on the order of authors in the eventual paper that will be published. Ironically, many agreements are worded in such a way that the pleasantest collaborations may be those where there is little chance of scientific or commercial success. The IPR debates are not going to fade away in the near future. We might, however, begin to wonder how we can generate more useful 'intellectual property' so that the task of protecting it becomes worthwhile.

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