

B/VIAS

LECTURE
LECTURE
LECTURE
LECTURE



Understanding some
Misunderstandings on the
Role of Intellectual Property
Rights in Technology and
its Transfer

V SIDDHARTHA



NATIONAL INSTITUTE OF ADVANCED STUDIES
Indian Institute of Science Campus
Bangalore 560 012 India

***Understanding Some
Misunderstandings on the role
of Intellectual Property Rights in
Technology and its Transfer***

V SIDDHARTHA

NIAS LECTURE L5 - 99



NATIONAL INSTITUTE OF ADVANCED STUDIES
Indian Institute of Science Campus
Bangalore 560 012 India

© National Institute of Advanced Studies
1999

Published by
National Institute of Advanced Studies
Indian Institute of Science Campus
Bangalore 560 012

Price : Rs. 50/-

Copies of this report can be ordered from:

The Controller
National Institute of Advanced Studies
Indian Institute of Science Campus
Bangalore 560 012
Phone : 080-3344351
Email : mgp@hamsadvani.serc.iisc.ernet.in

ISBN 81-87663-02-2

Typeset & Printed by
Verba Network Services
139, Cozy Apts., 8th Main, 12th Cross
Malleswaram, Bangalore 560 003
Tel.: 334 6692

Preface

From about the time of the Uruguay Round of multilateral trade negotiations initiated in September, 1986 under the auspices of the General Agreement on Tariffs and Trade (GATT), our Parliament, a variety of experts (many self-styled!), political activists, NGOs and the concerned lay public have debated and discussed at somewhat tiresome length, but not — alas — with sufficient depth and detail, the options before the country in the matter of the agreement within GATT concerned with Intellectual Property Rights (IPRs): The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs).

IPRs significantly affect trade, technological development and the legal environment surrounding the primary creators of intellectual property; namely, the scientific community.

Many misunderstandings abound on the topic of the role of IPRs in technology transfer. This presentation is an attempt to enable leadership groups in the country — the scientific community in particular — to avoid the pitfalls of misunderstandings that abound, and to acquire an overview of the issues germane to the role of IPRs in technology and its transfer.

V Siddhartha

The attached sheets reproduce in reduced format, with some additional annotations, the overhead transparencies that were displayed during a presentation I made on invitation to the participants in the XIII NIAS Course for Senior Executives on the theme of 'Leadership and Society', held at NIAS over January 4-23, 1999.

V. Siddhartha
Senior Associate



Intellectual Property Rights (IPRs) defined

The *rights* relating to : literary, artistic and scientific work; performances of performing artists, phonograms and broadcasts; inventions in all fields of human endeavour; scientific discoveries; industrial designs; trade marks; service marks and commercial names and designations; and all other rights resulting from intellectual activity in the industrial, scientific, literary and artistic fields.

[From : Convention establishing the World Intellectual Property Organisation (WIPO), Stockholm, 1967]

As explained in the next sheet, IPRs are not 'fundamental rights' that people can demand or lay claim to on the basis of any moral law or right.

IPRs in a "developing country"

In 1909, about a century after it was founded, a developing-country called the United States enacted its Copyright Act in which the purpose of the grant of "intellectual property rights" (then not labelled so grandiosely) was stated thus:

The enactment of copyright legislation by [US] Congress under the terms of the Constitution is not based on any natural right that the author has in his writings, for the Supreme Court has held that such rights as he has are purely statutory rights, but on the ground that the welfare of the public will be served and progress of science and useful arts will be promoted....Not primarily for the benefit of the author, but primarily for the benefit of the public such rights are given. ***Not that any particular class of citizens, however worthy, may benefit, but because the policy is believed to be for the benefit of the great body of people,*** in that it will stimulate writing and invention to give some bonus to authors and inventors.

IPRs, although conferred by the state, are not legally-sanctified 'after-the-creative-act' judgmental awards in the fashion of state prizes like the 'Sangeeta Kalanidhi' or 'Sahitya' awards.

In discussions on IPRs, one hears a lot about so-called 'balance' between private gain and public good. There is no such 'balance'. There is only one good – the public good. And the benefit is for – and only for – 'the great body of people'.

Controversies arise when societies address the question as to how the *public good* can be advanced by providing a legal environment that seeks to stimulate, with tailored inducements, investments by the individual or corporatised mind in the effort to be creative. This is the main reason why IPRs are instruments of political economy – as explained below.

IPRs in political economy

Rights to own and/or use tangible property (land, labour, capital) are the pith and substance of political-economy. Kings and people have fought, killed and loved for these rights. They still do.

Today's tools of wars, military and trade, are mind-products – tangible embodiments of *intellectual property*.

Rights to intellectual property are legal titles to the products of the individual or corporatised mind. They are granted by the State in furtherance of the welfare of the individual or corporatised mind. Intellectual Property Rights (IPR), granted by the State, are thus instruments of political economy; they are not Fundamental Rights.

One of the most important instruments of political economy is law. Different realms of concern cover: What IPR law ought to be; what it is; how one maximises benefit from it, and how one enforces it. Thus:

What IPR Law <i>ought</i> to be	Realm of political economy and moral philosophy
What the domestic IPR Law is and how it got to be so	Realm of international and domestic political economy; international and domestic legal regimes
Given the IPR law, how does one maximise benefit?	Realm of IPR in Technology/ Business Management
Given legal ownership of IPR, how does one enforce it?	Realm of contracts/courts/ lawyers/ case law

Technology transfer is effected through information based products

which may be categorised as:

- a. Works of fact (e.g. invention; know-how; technical data; maps).
- b. Works of function (e.g. mechanical devices, electronic circuits).
- c. Works of form (e.g. designs of objects without motor functions; jewellery; graphic designs; dance forms).

Intellectual Property *is embodied in the above information-based products.*

The above categorisation is an amended and extended version of the typology in: US Congress, Office of Technology Assessment, *Intellectual Property Rights in an Age of Electronics and Information*, OTA-CIT-302 (Washington, DC: US Government Printing Office, April 1986), page 67.

Intellectual Property Rights

- It is through these information-based products that technology is 'transferred' from the generator-owner of the information to the user-licensee of the information.
- In effecting the transfer of technology, any or all the above information-based products may act as the vehicle(s) for "transfer of technology". Only some of these products are the subject of legal protection, such as through patents.
- Note that it is the work (e.g. invention; computer programme), and not its legal protection (e.g. patent; copyright), which is the vehicle for technology transfer.
- More generally, **legal rights** to intellectual property have, in themselves, nothing whatever to do with the techno-managerial process of transferring technology.

Why is a patent not know-how?

- I. In all countries, the applicable law governing grant of patents for inventions requires only that the patent specification discloses all necessary information so as to enable a person skilled in the art to perform the invention i.e. to demonstrate the claims in the patent without the assistance of the inventor.

II. 'Know-how', on the other hand, covers any information necessary to set-up a production plant or to commercialise the invention. Such information includes, for example, details of the production methods applicable to the invention or, in the case of a mechanical component, the design drawings. It is this 'know-how' which is traded while transferring technology from a laboratory to an enterprise or from one enterprise to another. 'Know-how' is invariably commercially confidential and separately disclosed only under the terms of a licensing agreement executed between the seller and buyer of know-how. It is this 'know-how' which confers commercial value upon an invention disclosed in a patent.

III. The applicable law in India and in most other countries does **not** require that the information disclosed in the patent specification be **sufficient** for the commercial exploitation of the invention.

The point in III above is crucial. It makes the transactional situation asymmetrical as between the owner of a patent and the person who is trying to utilise it. The result, and power, of this asymmetry is explained on the next sheet.

IPRs in Technology (non)Transfer

IPRs generally (and patents in particular) are, therefore, legal instruments for

preventing

technology transfer (from second sources).

How so? Recall (per previous sheet) that a patent is not know-how. There is rarely enough information in a patent specification for the complete product to be manufactured or for the process technology to be commercially demonstrated. For these latter one needs "know-how".

Now, if one works out for oneself the required missing-from-the-patent know-how – or acquires it from another source – and manufactures the product, or commercialises the process, one could be in legal violation of the patent.

Three often-forgotten points

- A patent is no indicator that an invention has any technical merit; nor is it an indicator of functional usefulness, much less of commercial value.
- A patented invention is not necessarily 'superior' to an unpatented one performing the same technological function.
- A patent is not some kind of ISO-type certification of the worth of an invention.

Patent offices of countries are administrative centres implementing the applicable national law. They are neither technically nor administratively equipped, nor legally empowered, to conduct techno-economic valuations of claims in patent applications.

Patent examiners in patent offices merely examine if the claims in patent applications meet the criteria of patent 'giveability' laid-out in the applicable national law. If the criteria are met, patents are granted; otherwise not.

The criteria mandated by TRIPs that national patent offices have to use to assess patent 'giveability' are on the next sheet.

Criteria of patent 'giveability'

Save some exclusions, TRIPs requires that legislation in signatory countries provides that patents "shall be available for any inventions, whether products or processes, in all fields of technology, provided they are *new*, involve an *inventive step* and are capable of *industrial application*."

The italicised terms have the following equivalences in TRIPs:

	Europe & followers	United States & followers
A	New	New
B	Inventive Step	Non-Obvious
	Capable of Industrial Application	Useful

Meanings in context

A: Or 'novel', i.e. not previously known *to public*

B: Claim(s) contain sufficient innovativeness in comparison with previous publicly-revealed information – also known as 'prior art' – to merit protection in accordance with the provisions of national law.

Note: 'Publicly-revealed' means made known to the public anywhere in the world through any legally-recognised means, including published patents.

Implications for the R&D Community

I. Patents are a mine of technical information

Current Stock ~ 45 million world-wide.

80% of technical material contained in them is *not* published anywhere else.

THEREFORE

a patent search and review is a pre-requisite in order to be

accurate, complete and current

about usable R&D knowledge available in the relevant field.

II. Information contained in most patents is legally freely usable in India

A. World

- World stock of published patent specifications
- (i) : ~ 45 million
- Stock of Indian published patent specifications (incl.: FPH® in India)
- (ii) : ~ 0.18 million
- Proportion of world stock of patent specifications which remain in force at any point of time
- (iii) : 10-12 per cent (Or say, 5 million)
- Proportion of published Indian patents in force compared to world stock in force
- (iv) : ~ 0.2 per cent

Conclusion: 99.8 per cent of world stock of patent specifications legally freely usable in India.

B. Indian

- Patent applications (in India) made from India and abroad, each year
- (i) : ~ 10,000 ('97-'98)
- Patents in force in India (incl.: FPH® in India), of which Indian-owned
- (ii) : < 9000
: ~ 33 per cent
- Proportion of Indian patents **in force** as compared to total number of published Indian patents (incl.: FPH® in India)
- (iii) : ~ 1 per cent

Conclusion: 99 per cent of published Indian patent specifications usable by anybody absolutely free.

@FPH : Foreign Patent Holder. Figures are mid-'90s estimates.

Implications for R&D Management

I. As pre-requisite for selecting the line of research investigation

- Work on an R&D topic or task invariably begins with a "Literature Review"
- A review of the patents literature must be an integral part of such a "Literature Review".
- The specific R&D topic or task should not be decided upon until that review is conducted.

II. Patent literacy as a qualifying skill

In addition to asking a prospective candidate for an R&D position:

"Which journals do you read?", and

"How many papers have you co-authored?"

Potential candidates for *research* positions should be asked:

"Which patent searches have you conducted?"

"How many patents have you read, in what fields?"

"How many patents have you written?" [Note: *Written*, not *filed*]

Implications for R&D Management

I. As pre-requisite for selecting the line of

research investigation

- Work on an R&D topic or task involves a paper with a literature review
- A review of the patent literature must be an integral part of such a literature review
- The specific R&D topic or task should not be decided upon until that review is completed

II. Patent literacy as a qualifying skill

In addition to asking a prospective candidate for an R&D position

"Which journals do you read?" and

"How many papers have you co-authored?"

potential candidates for research positions should be

asked

"Which patent

Dr V Siddhartha was educated at IIT Madras, Cranfield Institute of Technology and Imperial College, London. After a year at the Science Policy Research Unit at Sussex, he joined the Government of India where he has served in various capacities, at the Department of Science and Technology, the Indian Space Research Organization and the Department of Defence Research & Development; he was for some time Secretary of the Science Advisory Council to the Prime Minister. He has also been Consultant to the United Nations Environment Programme. At present he is Officer on Special Duty at the Secretariat of the Scientific Adviser to the Defence Minister.

ISBN 81-87663-02-2