Ethics of Intellectual Property

April 2006
J. N. Hooker
Carnegie Mellon University
Legal Aspects
Legal definition of IP

- Patent
- Trade secret
- Copyright
- International agreements
Patent

- Designed to encourage *disclosure* of ideas in exchange for limited period of exclusive use.

- Can patent:
  - A “method, product, apparatus, composition of matter, design for articles of commerce, or in certain cases a plant.”
  - Software or an algorithm.

- Cannot patent:
  - A pure idea, such as a theorem.
  - Anything that occurs in nature.
  - A “way of doing business,” even if automated by computer.
  - “Look and feel,” e.g. spreadsheet.
Patent

- Patented invention must be useful, novel, and unobvious.
  
  - “Novel” means:
    - It was not known or used in the United States prior to the patent application.
    - It was not patented or described in a publication anywhere in the world more than a year prior to the patent application.
  
  - “Unobvious” means it was not obvious to a person skilled in the art at the time of the invention.
Patent

- Duration of patent is 20 years.
  - 14 years for “design for article of commerce” (ornamental appearance of device).
Trade secret

- It is a “secret formula, pattern, or device that is used in a business and provides a commercial advantage.”
  - It can be bought, sold and licensed.
- It remains intellectual property forever, or until the secret gets out.
  - For example, the formula for Coca-Cola.
Trade secret

- The law does not prohibit *use* of a trade secret.
  - It only prohibits others from *stealing* a trade secret.

- It is legal for another company to conceive the idea independently and use it.
  - Reverse engineering is not theft (the idea was not really secret).
Copyright

- It limits the number of copies others can make of a document or work of art without permission.
- It lasts longer than a patent.
  - Individual’s copyright lasts 70 years beyond his or her lifetime (recently extended from 50).
    - Work made for hire: 95 years past publication or 120 years past creation, whichever is shorter.
- Ideas cannot be copyrighted.
  - Only a particular expression of ideas.
Ownership

- A patent is *registered* in the name of the inventor.

- The *owner* may be someone else, or a company.
  - An employer normally owns any idea conceived by someone working *for hire*.
  - The 3-M employee who invented post-it notes at home for his church choir had to turn rights over to the company.
Ownership

- Who works “for hire”?
  - Normally, full-time employees work for hire and do not retain IP rights.
    - However, a university faculty member normally retains rights to a scholarly article.
    - Universities are free to modify this tradition in the employment contract and sometimes do.
  - Normally, consultants do not work for hire, depending on contract.
Ownership

- A PhD student paid by professor to develop a specific algorithm is not working for hire.
  - Retains IP rights unless there is a specific agreement to the contrary.
  - **But**… professor or PhD student working under a grant is subject to terms of the grant.
  - A PhD student interested in IP rights should explore the issue *before* investing heavily in a project.
  - Universities typically publish IP policies.
International agreements

- The ruling international law is the TRIPS agreement.
  - Added to GATT (General Agreement on Tariffs and Trade) at the Uruguay Round of trade negotiations in 1994.
  - Amended at 2001 WTO Ministerial Conference in Doha.
International Agreements

- Most controversial provision of TRIPS is its limitation on compulsory licenses.
- A state may issue a compulsory license to require a holders of a pharmaceutical patent to grant rights to the state or third party.
  - In exchange for royalties set by the state.
  - A major issue in the pharmaceutical industry.
International Agreements

- TRIPS limits grounds for compulsory licenses to national emergencies and the like.
- Doha meeting liberalized this.
  - Gives countries the right to determine the grounds on which they issue compulsory licenses.
Ethical Aspects
Concept of IP

- The term *intellectual property* has been in common use only about 30 years.
  - Can leave the impression that IP is like other property.
  - But one can use IP without denying others the use of it.
  - So it is unclear that IP rights are “natural” property rights analogous to the right to own an automobile or land.
Lockean defense for IP rights

- There is no property in a state of nature.
- But when humans improve or transform natural resources, they can *take possession* of the fruits of their labor.
  - Natural ownership of one’s body extends to creations of one’s body.
  - One can sell possessions once acquired.
  - So one can acquire property without creating it.
Lockean defense for IP rights

- But this is an argument for the right to *take possession* of something.
  - As opposed to leaving it available for common use.
  - But one cannot take possession if IP in this sense.
  - Lockean argument doesn’t seem relevant to IP.
Kantian defense for IP rights

- One can act only if one has to freedom to choose one’s actions.
  - This presupposes some degree of control over one’s immediate surroundings.
  - To deny this kind of freedom is to deny agency and therefore immoral.
Kantian defense for IP rights

One mechanism for ensuring control is the right to exclusive or at least uninterrupted use of artifacts one needs to carry out one’s purposes. So a right to a reasonable amount of property can be grounded in the right to agency.
Kantian defense for IP rights

- But one doesn’t need exclusive use of IP, since others can use it simultaneously.
  - One can have full access to IP no matter how many other people use it.
  - So Kantian argument does not apply to IP.
Utilitarian defense for IP

- None of the previous says that there is no right to IP.
  - Only that there is no *natural* right.

- There may be a utilitarian obligation to respect IP rights.
  - This is a weaker right, as reflected in the law.
    - Limit on how long one can own IP.
    - Fewer limits on who can use it (trade secrets).
Utilitarian defense of IP rights

- Utilitarian argument for IP
  - IP rights provide incentive to develop new ideas.
    - This increases overall utility.
  - Patent law allows free discussion and exchange of ideas, despite IP rights.
    - Original intent of patent law.
    - Also increases utility.
      - But trade secrets, nondisclosure agreements restrict discussion.
Utilitarian defense of IP rights

- So IP rights are not rights to exclusive use of IP, but rights to make a profit from it.
- Unlike inherent human rights, all IP rights must be justified in terms of consequences to society.
  - There can be no “balancing” of IP and human rights.
Some criticized original TRIPS agreement for trying to balance human and IP rights rather than giving human rights priority.

- For example, restriction on compulsory licenses.
- A north/south issue.
- GATT signatories have taken little action to implement Doha reforms.
  - Apparent pressure from “north.”
Patenting Life

- One cannot patent an organism that occurs in nature.
- However, one can patent a genetically altered organism.
  - U.S. Supreme Court, Diamond v Chakrabarty, 1980, allowed patenting of oil-eating bacterium.
    - Chakrabarty was genetic engineer at GE.
  - One gets credit for the entire organism after tinkering with its DNA.
Patenting Life

- Disclosure requirement limits generality of patent.
  - Philip Leder patented genetically engineered “oncomouse” that contains cancer-causing genes, and any similar mouse.
  - “Similar mouse” must be engineered according to the technique disclosed in Leder’s patent application.
Neemix

- W. R. Grace patented neemix, derived from seeds of neem tree, which grows naturally in India.
- Patent was challenged on two general grounds:
  - Neem seeds are natural and belong to everyone.
  - Neem extracts and their effects are traditional knowledge in Indian culture.
Neemix

- Can Grace patent a substance that occurs in neem seeds?
  - No. They cannot patent anything that occurs in nature.
  - Grace patented a more stable form of neem seed extract.
Can Grace patent a neem extract that is traditional knowledge in India?

- Not in India. They didn’t try.
- They got a U.S. patent because
  - the extract had not been known or used in the USA prior to the patent application
  - The extract had not been patented, nor the idea published, in India a year or more prior to the patent application.
Neemix

- Suppose patents extended across international boundaries.
  - Neither U.S. nor Indian companies would be able to patent traditional Indian knowledge.
  - But U.S. companies would be entitled to video royalties in India.
  - First-world intellectual property would have the advantage.
Moral Status of IP
Moral status of IP

- Traditional conception of property rights was more sophisticated than the modern one.
  - Several kinds of property.
  - Only partially interchangeable.
  - For example, bride price may be payable only in cattle.
  - Money usable only for trade with other groups.
    - Different kinds of money.
Moral status of IP

- Modern conception of property makes all assets interchangeable.
  - Reduction of all value to single medium of exchange.
  - This tends to result in concentration of wealth
    - One can use economic power to acquire assets of those less well off. (See M. Walzer, *Spheres of Justice*).
Future of IP rights

- But we are seeing a trend away from this extreme solution.
  - Illegality of prostitution.
  - Abolition of chattel slavery.
  - Removal of medical care from marketplace in some countries.
Future of IP rights

- Strengthening of IP goes against this trend.
  - Further extends interchangeability of assets.
    - Response to business pressure over the last century.
    - Minor modifications of life forms can be patented.
      - *Diamond v. Chakrabarty*
    - Minor modifications of folk knowledge can be patented.
      - W. R. Grace and Neemix.
Future of IP rights

- Incentives for innovation are key to West’s continued prosperity in a new world order.
  - “Developed” and “less developed” nations therefore clash over IP agreements.
Future of IP rights

- We may see a weakening of IP rights, due to:
  - Growing clout of non-Western nations.
  - General trend away from reducibility of value.
  - Growing practicality of limits on interchangeability.
    - Airline miles.
    - Web-based accounting.