Problems of Intellectual Property

- Knowledge Becomes Property
- Do “IP” rights encourage or discourage knowledge creation?
- Two kinds of knowledge: tacit/embodied vs. explicit/abstract
  - Tacit/Embodied: cannot be formally “owned”
    - Knowledge as skill-based
    - Trade secrets & guild membership
  - Explicit/abstract: can have intellectual property (IP) protection
    - Mechanics and engineers
    - “technical” knowledge emerges as science/knowledge-based
    - Ideas as property precede the technical university

Patents, Trademarks, and Copyrights

- Clear basis for patents: the mobility of useful knowledge
  - Professional review and publication requirements
  - Licensing regimes
  - Use it or lose it (UK) and the politics of preëmptive patenting
- Trademarks: warranting for protection of both producers and consumers: protecting cultural icons—forever (NB: Gorby's birthmark)
- Copyright: exclusive rights of reproduction
  - Established merely by authorial claim: myriad divisibility
  - Increasing gray area between patents and copyrights

Knowledge As Property II

- Franklin and Jefferson: “incentivizing” innovation
  - Monopolies and patents to foster the “general welfare”
  - Wealth of Nations (1776) and disdain for monopolies/patents; ditto for founders
  - Jeffersonian compromise: innovation to serve the “general good,” facilitated by *temporary* monopolies via IP laws
  - Sovereignty and the making of property

Religious Knowledge and the Rise of the Author: Don't Confuse "authorship" with "ownership"

- Rabbinical, priestly knowledge and god's exclusive authorship
- The Renaissance and secular authors
  - [Chaucer]
  - Dante, Boccaccio
  - Shakespeare, Molière
- "Authorship" more to warrant than to protect
- Newton, Leibnitz, and the politics of scientif c attribution

Sovereignty, the State, and the Invention of Property: 1500-1800

- Land: authority versus ownership
- Literacy and the recording of rights
- Censorship and approval: ironic source of copyright

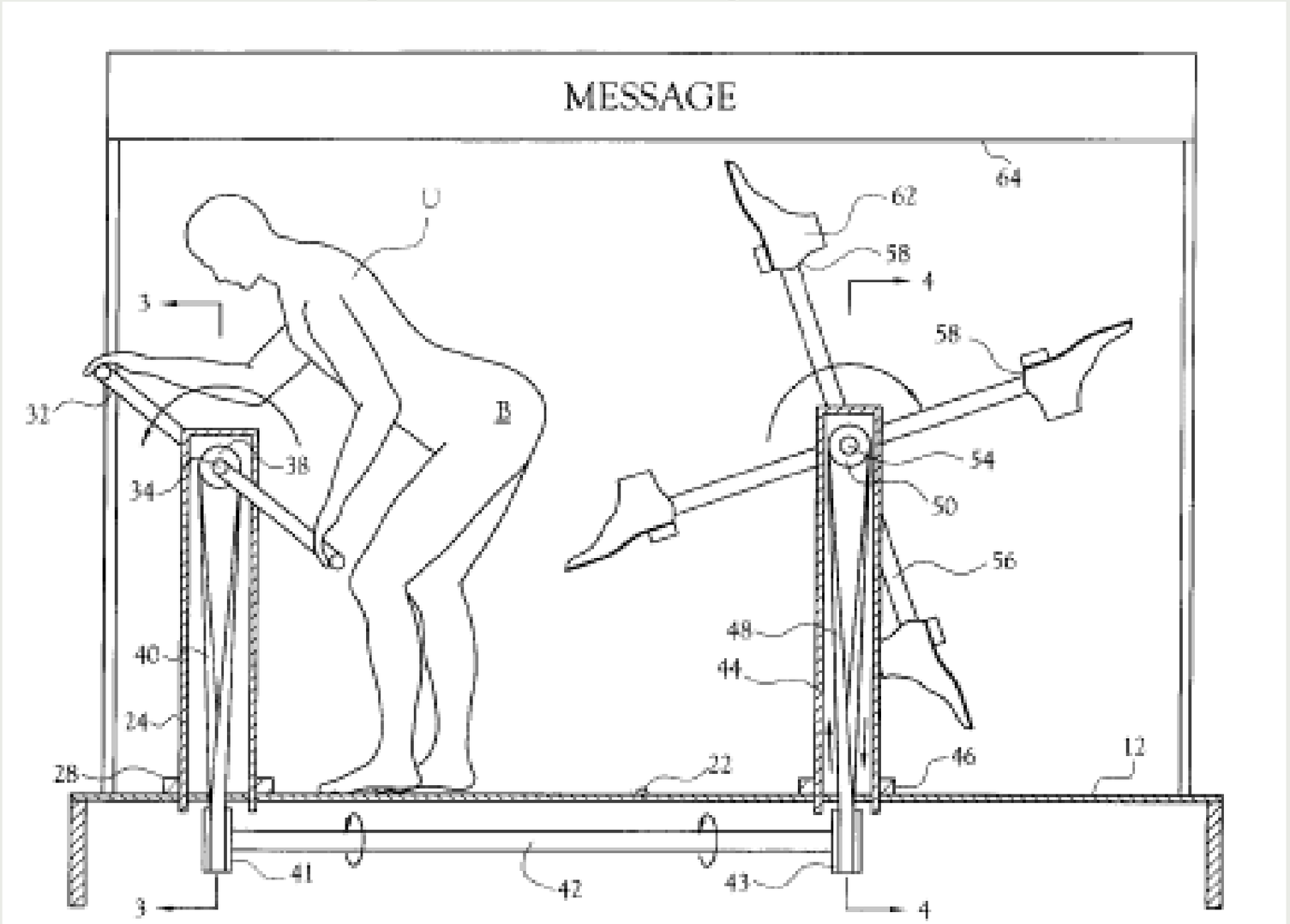
The Nineteenth Century: Print Culture and Modern Invention

- Precedent: newspapers, journals, and popular reading in the 18th century
- “Authorized editions” vs. pirated copies
- Dickens, Twain, Zola and the link of publishers and authors: joint interest in maintaining exclusive rights
- Diff culty in reproduction lessened the risk of piracy, but reproduction became cheaper after 1880: pulp paper & the Paige compositor
- With the emergence of modern corporations after 1860, “knowledge” became an “asset” to be protected—Bayer aspirin, analine dyes, etc. Ivory soap.

Patents

- Clear basis for patents: the mobility of useful knowledge—protects invention and innovation
- Def ned: 17-year term (from granting) on physical objects and processes
  - Must demonstrate no “prior art” (requires research)
  - Upon application for patent, details must be published & accessible at USPTO
  - Reviewed by “experts” at USPTO
  - Can be licensed out to others
- Some downsides of the patent régime
  - No “use it or lose it” rule (as in UK); the politics of preëmptive patenting
  - Strong incentives for “stealth” patent claims: SCO and Unix, NTP and RIM
  - Examiners are often not fully qualif ed to judge

Perhaps a Silly Patent…



Source: US Patent 6,293,874

US Patent # 6,293,874, awarded 25 September, 2000, described as a "User-operated amusement apparatus for kicking the user's buttocks"

The Social Cost of a Patent

- The annual price of the “AIDS cocktail” according to Médicins sans frontières:
  - Use of the IP-protected package: $6,000
  - Use of Cipla’s (from India) off-patent/generic in South Africa: less than $140 and falling
  - Average GDP per capita in Africa: $652
  - Bush’s program for combating AIDS in Africa pays Big Pharma a price closer to the $6,000/person/year than to the $140 deal (as of 3/04): who actually benefits?
    - Result: treat one person, and give the cost of treating 42 more to Big Pharma!
- Cost of AIDS to South African business: disincentive to invest in workers’ skills

Trademarks

- Defined: a symbol or text snippet that is a forever-monopoly for the owner, granted by the PTO
  - must be registered to have effect
  - cannot be commonly used (one can't trademark a crucifix)
  - needs to be unique, like Gorbachev's poet-wine mark
- Purpose: warranting/branding
- Can be licensed to external parties; example: the "Block 'M'" owned by UofM Athletic Department
- Visual fraud is sometimes easy, but legal: the Yellow Pages logo


Source: Yellow Pages


Source: Undetermined


Source: Undetermined

Copyrights

- Defined: protection not of *ideas* per se, but of the *expression of ideas* in "tangible media" (includes digital)
- Term (latest revision with CTEA, 1998):
  - Life of author plus 70 years
  - 95 years after publication or 120 years after creation, whichever is shorter, for "works for hire" (corporate assets)
  - At end of term, works enter the public domain
- No requirement to register since 1976, renewals are automatic as well
- Digital Millennium Copyright Act (1998), discussed below, vastly reinforces rights of IP owners: makes © a *criminally prosecutable* offense (was civil only)
- Strength of copyright claims mitigated by doctrine of "Fair Use," now under corporate assault

“Fair Use” Defined by Law

- From US Code, Title 17, Chapter 1, § 107: “Limitations on exclusive rights: Fair use”
  - Notwithstanding the provisions of sections 106 and 106A, the fair use of a copyrighted work, including such use by reproduction in copies or phonorecords or by any other means specified by that section, for purposes such as criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research, is not an infringement of copyright. In determining whether the use made of a work in any particular case is a fair use the factors to be considered shall include:
    - the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes;
    - the nature of the copyrighted work;
    - the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and
    - the effect of the use upon the potential market for or value of the copyrighted work.
- Also, a generally recognized “right of first purchase”: the right of the purchaser to dispose of the purchased item as s/he sees fit

Copyrights' Tangled Path & Interpretation

- Problems of reproducibility
  - Works of art as inherently unique: authorship embodied in the work; art forgery
  - Lithography and the emergence of mass-produced "art"
- Literary & musical protections
  - "classics" as public: when is something "classic"—CTEA?!
  - Other work as needing limited protection
  - Sheet music

Art/Literature in the Age of Mechanical Reproduction: 20th Century

- Sheet music, piano rolls, musical recordings, radio, house music, jukeboxes
- Publishing as an industry
  - Music publishers
  - Book publishers
- Artists, writers, and intermediation

Authorship and Distribution

- The standard business model for IP
  - Converging interests among whom?
  - Do audiences make value?
- Monopolization of distribution: Not all artists are created equal—artists as captives of distributors
  - Artists and consumers vs. producers?
  - Who is captured by the contract?
  - Mariah Carey @ $25 million

SciTech as Collective Product?: Locating Ownership

- The research establishment & Bayh-Dole (1980)
- The university as passive infrastructural research environment vs university as part owner
- “Basic” research vs. “applied” research
  - The subsidy state?
  - ISU, DES, and locations of knowledge vs property rights
- The crisis in scholarly publishing
  - Control of copyrights & distribution channels by an oligopoly restricts circulation of publicly-funded research results
  - A solution? The Public Library of Science and e-journals

Diffusing and Limiting Knowledge

- The contradiction: public space/culture and private remuneration
  - Temporal limitation of IP rights
    - Preëmptive invention: Big Pharma
    - The politics of patent and copyright extension: generic drugs, CTEA/Eldred
- Criteria for awarding patents: the judgment calls
  - How new? Process vs. product vs. “one-click”
  - Question of repackaging and value-added
  - PTO as site for creation of value
  - Problems at the PTO

Contemporary Issues

- Napster, Gnutella/Morpheus/Kaaza and file sharing
  - peer-to-peer systems replace intermediaries
  - Are the old media distributors now simply parasites?
- DMCA and the legal backing of copy-protection; the politics of encryption & reverse-engineering
  - Diebold & voting machines; DeCSS
- Patenting life: GM foods & "Roundup-ready" seeds
  - Diamond v. Chakrabarty (447 U.S. 303 1980): “made” organisms can be patented; broad interpretation is very risky…
- Alternative, licit models for content distribution
- Data resales, by government & businesses
- Universities as R&D sites; who owns academic ideas?

The Politics and Practices of Enforcing IP Rights

- Non-legal (not *illegal*) means
  - Copy-protection; now endorsed by DMCA
  - Encryption and serial numbers
  - Difficulty of reproduction
  - Costs of implementation vs. costs of cracking…
- Legal means
  - Copyright & patent law
  - Costs of litigation; quasi-SLAPP* suits & the RIAA

*SLAPP = “Strategic Lawsuits Against Public Participation”

Politics and Practices: Stakeholders

- “Content Producers”
  - Artists, writers, performers, s/w developers, etc.
  - Distributors: studios, publishers, record companies
- Substitutes
  - Alternative media & venues
  - Libraries
- Intermediaries
  - Technology firms, music & film companies
    - [the upcoming demise of movie theaters?]
  - Pipelines
- Consumers…

Who Wins, Who Loses?

- Is “old” IP law suff cient?
  - Enforceability issues
  - Fungibility and ease of reproduction
    - Current problems: DMCA, CTEA, hardware-based protections: going overboard?
- Public space, private goods: compatible?
  - The shopping-mall precedent
  - Fate of libraries

The Balancing Act: Protecting Property and Access

- Rights of consumers of information
  - “Fair use,” including education & quotation
  - Personal use
  - Backups
- Rights of information producers
  - Amortization of investment
  - Financial return on artistic effort
  - Incentives
  - How effective in context of monopsonistic distribution?

Emerging New Models of Content Delivery that Try to Protect IP

- [What, really, are the true losses to piracy?]
- Subscription: HBO, ESPN
- Pay-per-view
- Legally-protected encrypted streams & paths; example: the “broadcast flag”
- End of the general-purpose computer?
  - Microsoft, Longhorn/Vista, and DRM/“Trusted Computing”
  - Is it really techies vs. distributors?
- Photocopy police => IP police? Who enforces?
- Open alternative: direct payments & direct distribution: **overt disintermediation**

Breaking News…

- Sony just used “rootkit” malware to implement copy protection (aka DRM—digital rights management), allowing a back door into users’ systems.* As of 2005-11-12, two worms had been discovered that exploit the security hole. Remember that under the DMCA (1998), users can be prosecuted for disabling Sony’s DRM—even if they only want to make their PCs secure!
- AG Alberto Gonzales has proposed a law that criminalizes © infringement on non-registered works; hence one can be prosecuted for not doing research before copying. [This implicitly] reduces the incentives for rights holders to register.

*In its DRM software, Sony pirated code from LAME, an open-source mp3 encoder—so in the name of protecting its own IP assets, Sony violated others’ IP rights!