



INTRODUCTION TO INTELLECTUAL PROPERTY

INFO 350 WEEK 5A

INTELLECTUAL PROPERTY



WHAT IS INTELLECTUAL PROPERTY?

- Intellectual property: any unique product of the human intellect that has commercial value
 - Books, songs, movies
 - Paintings, drawings
 - Inventions, chemical formulas, computer programs
- Intellectual property \neq physical manifestation
- Treated like physical property

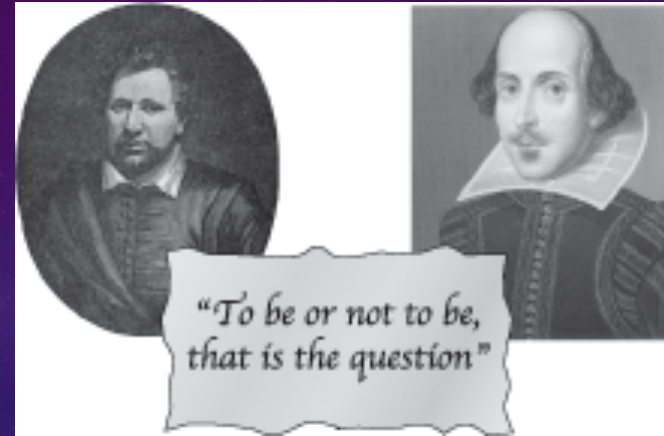
CHALLENGES OF CONTEMPORARY TECHNOLOGY

- Digital technology and the Internet make copyright infringement easier and cheaper.
- Compression technologies (e.g. MP3, PNG) make copying large files (e.g. graphics, video and audio files) feasible.
- Search engines make finding material easier.
- Peer-to-peer technology makes transferring and sharing files easier.

PROPERTY RIGHTS

- John Locke: *The Second Treatise of Government*
- People have a right...
 - to property in their own person
 - to their own labor
 - to things which they remove from Nature through their labor
- As long as...
 - nobody claims more property than they can use
 - after someone removes something from common state, there is plenty left over

ANALOGY IS IMPERFECT



Ben Jonson, walker Art Library/Alamy; Shakespeare, Classic Image/Alamy

- IP is “non-rivalrous”
- If Ben Jonson and William Shakespeare simultaneously write down *Hamlet*, who owns it?
- If Ben “steals” the play from Will, both have it
- These paradoxes weaken the argument for a natural right to intellectual property

LIMITS AND JUSTIFICATIONS

- Giving creators rights to their inventions stimulates creativity
- Society benefits most when inventions in public domain (not protected)
- Congress has struck compromise by giving authors and inventors rights for a limited time

INTELLECTUAL PROPERTY IN THE LAW

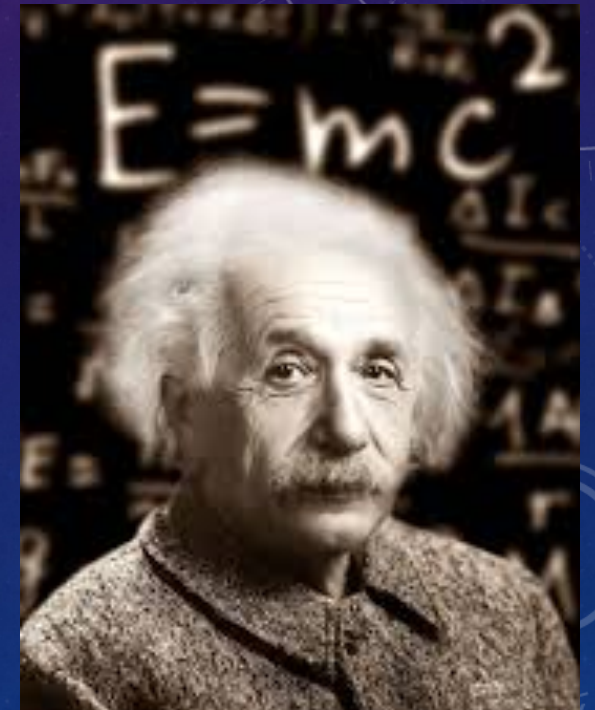
The background is a deep blue gradient with a subtle pattern of white dots, resembling a starry sky. Overlaid on this are several faint, white geometric elements: a large circular scale with degree markings (0 to 210) and arrows in the upper right; a smaller circular scale with degree markings (0 to 90) in the lower right; and various concentric circles and arcs in the lower left and top center.

CONSTITUTIONAL ORIGINS OF IP LAW

- Article I, Section 8, Clause 8, of the United States Constitution grants Congress the power... "To promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries."
- Because this clause is also the source of Congress' power to enact legislation governing copyrights and patents, it is often also referred to as the "Patent and Copyright Clause."
- See https://www.law.cornell.edu/wex/intellectual_property_clause

INTELLECTUAL PROPERTY: TYPES

- Copyright
 - For creative works, such as writing, images, and music (and now, software)
 - Does **not** include abstract ideas but only concrete “expressions”
 - Applies to works at the moment of creation (no registration required)
- Example: The Theory of Relativity
 - Albert Einstein could not copyright the *theory*. Anyone is free to use the theory because it’s an idea
 - If he (or anyone else) wrote a book about the theory, the book’s content can be copyrighted



INTELLECTUAL PROPERTY: TYPES

- Patents
 - For inventions – “useful for work”
 - Machines, gadgets, software
 - Many software development techniques have been patented
 - Requires registration – U.S. Patents and Trademarks Office
 - Expensive and difficult to register a patent

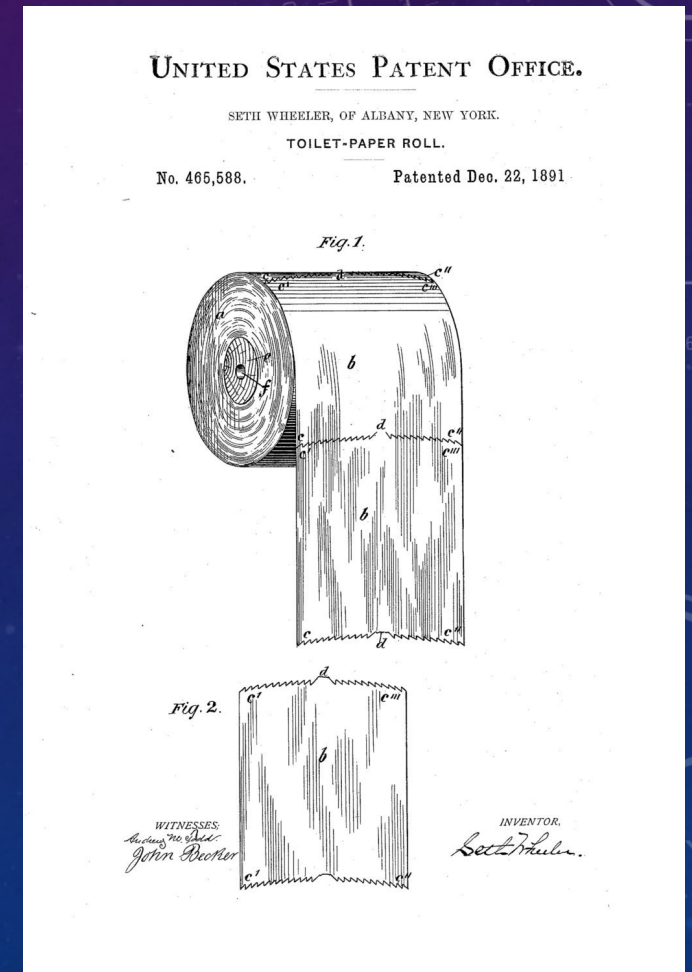
INTELLECTUAL PROPERTY: TYPES

- Trademark
 - Must be registered with the trademark office
 - Brand or company name: Protects “the good name” of the brand
 - Claims for protection include “confusion in the marketplace”
- Trade Secrets
 - Business practices, processes, and methods
 - No registration: Must a “secret” held by a business entity
 - Coca-cola recipe is a trade secret
 - As applied to information systems – algorithms are protected this way

INTELLECTUAL PROPERTY: PATENTS

35 USC § 101

- “...any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof”
- Includes machinery, manufacturing techniques, composition of matter (e.g. synthetic materials)
- Also includes plants!
- Also (as of 1990) includes things invented in outer space!



INTELLECTUAL PROPERTY: PATENTS

- A public document that provides detailed description of invention
- Provides owner with exclusive right to the invention
- Owner can prevent others from making, using, or selling invention for 20 years

INTELLECTUAL PROPERTY: PATENTS

- Patents must be registered
 - The right of exclusive use for a limited time is granted *in exchange for making the invention public*
- Complex, expensive application process (patent attorneys get paid very well)
- Application must show that the invention is
 - **Useful** (able to accomplish at least one of its stated purposes)
 - **New or novel** (not publicly known – cannot patent existing things that just don't happen be patented)
 - **Non-obvious** (would it be obvious to an expert in the field?)

DR. ALEXA —

Amazon patents Alexa tech to tell if you're sick, depressed and sell you meds

Echo could analyze your voice to detect a "physical or emotional abnormality."

JON BRODKIN - 10/11/2018, 10:13 AM



Opinion

What 7 Creepy Patents Reveal About Facebook

By Sahil Chinoy

Illustrations by André Wee



Facebook has filed thousands of patent applications since it went public in 2012.

- Using forward-facing cameras to analyze your expressions and detect whether you're bored or surprised by what you see on your feed.
- Using your phone's microphone to determine which TV show you're watching.
- Systems to guess whether you're getting married soon, predict your socioeconomic status and track how much you're sleeping.
- Predicting when your friends will die.

Source: <https://www.nytimes.com/interactive/2018/06/21/opinion/sunday/facebook-patents-privacy.html>

TRADEMARK, SERVICE MARK

- Trademark: Identifies goods
- Service mark: Identifies services
- Company can establish a “brand name”
- Does not expire
- If brand name becomes common noun, trademark may be lost

INTELLECTUAL PROPERTY: TRADEMARK

15 USC Chapter 22

- Registered trademarks: ®
 - Apply nationally and form the basis for international registration
- Unregistered trademarks: TM
 - Only apply in the geographic region where used
- Cannot be a part of everyday language, or become part of everyday language (e.g. “band-aid”)
 - So how did a computer company trademark the name “Apple?”
- Trademark disputes often hinge on the risk of “confusion in the marketplace.”
 - A rock band called “The Googles” might prevail in a trademark dispute...might



TRADE SECRET

- Confidential piece of intellectual property that gives company a competitive advantage
- Never expires
- Not appropriate for all intellectual properties
- Reverse engineering allowed
- May be compromised when employees leave firm

INTELLECTUAL PROPERTY: TRADE SECRETS

18 USC §1833...

- Economic espionage – the theft of trade secrets
- "A trade secret is any information that can be used in the operation of a business or other enterprise that is sufficiently valuable to afford an actual or potential economic advantage over others"
- Requirements:
 - **It must be a secret** – once it has been publicized by the owner, trade secret protection lapses
 - No registration requirement



Uber Fires Driverless Car Engineer Who Triggered Google Trade Secret Lawsuit



Alan Ohnsman, FORBES STAFF

[FULL BIO](#) ▾



AP Photo/Eric Risberg

Anthony Levandowski, the former head of Uber's self-driving program, speaks to reporters in San Francisco in

[+]

Uber has fired [Anthony Levandowski](#), the self-driving car engineer at the heart of its [high-stakes legal fight](#) with Alphabet Inc.'s Waymo, for failing to assist the company to meet a federal judge's order demanding the return of stolen technical data.

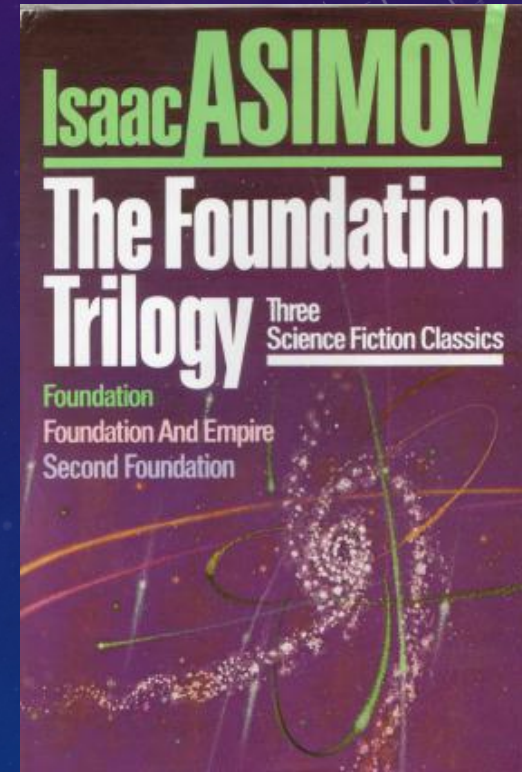
WRITING PROMPT

- The Theory of Relativity cannot be copyrighted. Can you explain why? What would it take for someone who improved upon the Theory to be granted a copyright to their work?
- Quizzes: Writing Prompt #4

INTELLECTUAL PROPERTY: COPYRIGHT

U.S. Copyright Law: Chapter 17 of the United States Code

- 17 USC § 102 defines the domain of copyright in U.S. law:
- “...original works of authorship fixed in any tangible medium of expression,”
 - (1) literary works;
 - (2) musical works, including any accompanying words;
 - (3) dramatic works, including any accompanying music;
 - (4) pantomimes and choreographic works;
 - (5) pictorial, graphic, and sculptural works;
 - (6) motion pictures and other audiovisual works;
 - (7) sound recordings; and (8) architectural works.



COPYRIGHT

- Provides owner of an original work five rights
 - Reproduction
 - Distribution
 - Public display
 - Public performance
 - Production of derivative works
- Copyright-related industries represent 6% of U.S. gross domestic product (> \$900 billion/yr)
- Copyright protection has expanded greatly since 1790

COPYRIGHT - LIMITATIONS

- Time limited: Typically: life of the author plus 70 years (this has been changed a lot)
 - Works for hire – 95 – 120 years
- Once copyright has lapsed, works become “public domain”
- **17 USC §102(b)** “In no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work.”
- Copyright does not apply to mere ideas or discoveries, but the artifact in which they appear...

COPYRIGHT - APPLIES TO THE “TANGIBLE” MEDIUM

Ideas and formulas cannot be copyrighted

Recipes cannot be copyrighted

Works in the public domain cannot be copyrighted

BUT *their representations* can be

- Science textbooks
- Cookbooks
- Sheet music

Ideal gas law

From Wikipedia, the free encyclopedia

The **ideal gas law** is the [equation of state](#) of a hypothetical [ideal gas](#). It is a good approximation of the behavior of many [gases](#) under many conditions, although it has several limitations. It was first stated by [Émile Clapeyron](#) in 1834 as a combination of the empirical [Boyle's law](#), [Charles's law](#) and [Avogadro's Law](#).^[1] The ideal gas law is often written as

$$PV = nRT,$$

Ingredients

- ✓ 1/4 cup white miso (fermented soybean paste)
- ✓ 1/4 cup mirin
- ✓ 2 tablespoons unseasoned rice vinegar
- ✓ 2 to 3 tablespoons soy sauce
- ✓ 2 tablespoons minced green onions

Directions

Watch how to make this recipe.

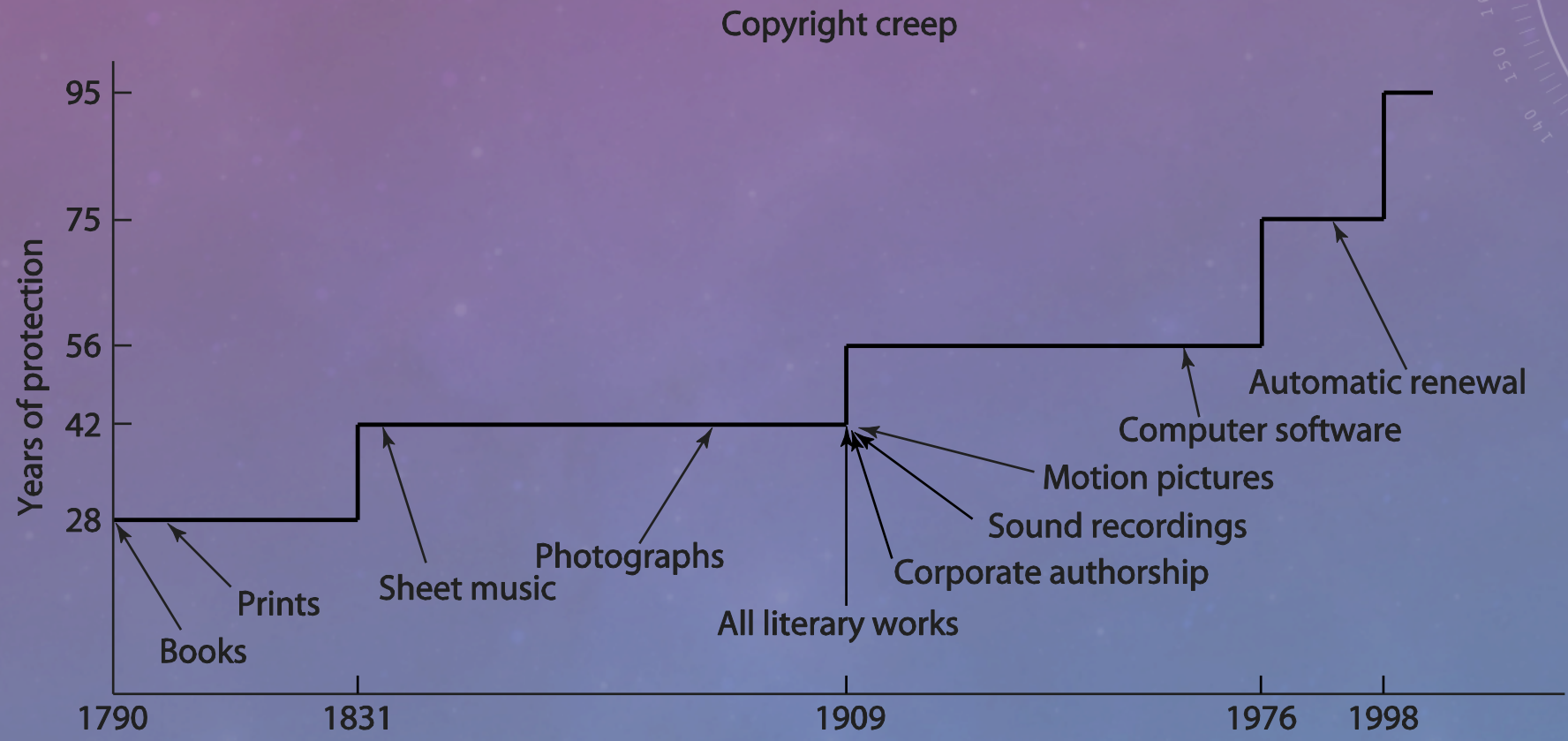
Whisk together the miso, mirin, vinegar, soy sauce, green onions, ginger, and sesame oil in a small bowl. Place the salmon in a baking dish, pour the marinade over, and turn to coat. Cover and marinate for 30 minutes in the refrigerator.

Heat grill to high. Remove the fish from the marinade and season with salt and pepper. Grill the salmon,

COPYRIGHT CREEP

- Since 1790, protection for books extended from 28 years to 95 years or more
- Some say latest extension done to prevent Disney characters from becoming public domain
- Group of petitioners challenged the Copyright Term Extension Act of 1998, arguing Congress exceeded Constitutional power
- U.S. Supreme Court ruling
 - CTEA does not create perpetual copyrights
 - CTEA is constitutional

COPYRIGHT CREEP



FAIR USE

- Sometimes legal to reproduce a copyrighted work without permission
- Courts consider four factors
 - Purpose and character of use
 - Nature of work
 - Amount of work being copied
 - Affect on market for work

FAIR USE

17 USC § 107

- 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—
 - (1) the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes;
 - (2) the nature of the copyrighted work;
 - (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and
 - (4) the effect of the use upon the potential market for or value of the copyrighted work.

AUTHORS GUILD V. GOOGLE (1/2)

- Google announced plan to scan millions of books held by several huge libraries, creating searchable database of all words
- If public domain book, system returns PDF
- If under copyright, user can see a few sentences; system provides links to libraries and online booksellers
- Authors Guild and publishers sued Google for copyright infringement (copying books for commercial reasons)
- Judge ruled in favor of Google and dismissed lawsuit

AUTHORS GUILD V. GOOGLE (2/2)

- Judge: Google Books is a fair use of copyrighted works
- Purpose and character:
 - Purpose is to create a massive index
 - Character is highly transformative
 - Precedent: *Kelly v. Arriba Soft Corporation*
 - Weighs in favor of fair use
- Nature of work being scanned: mostly nonfiction
 - Weighs in favor of fair use
- How much being scanned: entire work
 - Weighs against fair use
- Effect on the market: stimulating book sales
 - Weighs in favor of fair use

STREAMLINING CREATIVE RE-USE

- Under current copyright law, eligible works are copyrighted the moment they are created
- No copyright notice does not mean it's okay to copy
- Must contact people before using work
- That slows down creative re-use
- **Free Creative Commons license indicates**
 - Which kinds of copying are okay
 - Which rights are being retained
- Flickr and Magnatune two well-known sites using Creative Commons licenses



Attribution-Noncommercial-Share Alike 3.0 United States

You are free:



to **Share** — to copy, distribute and transmit the work



to **Remix** — to adapt the work

Under the following conditions:



Attribution — You must attribute the work in the manner specified by the author or licensor (but not in any way that suggests that they endorse you or your use of the work).



Noncommercial — You may not use this work for commercial purposes.



Share Alike — If you alter, transform, or build upon this work, you may distribute the resulting work only under the same or similar license to this one.