

# The Purpose and Intent of the GNU General Public License

Bradley M. Kuhn  
Executive Director  
Free Software Foundation  
Tuesday 20 January 2004

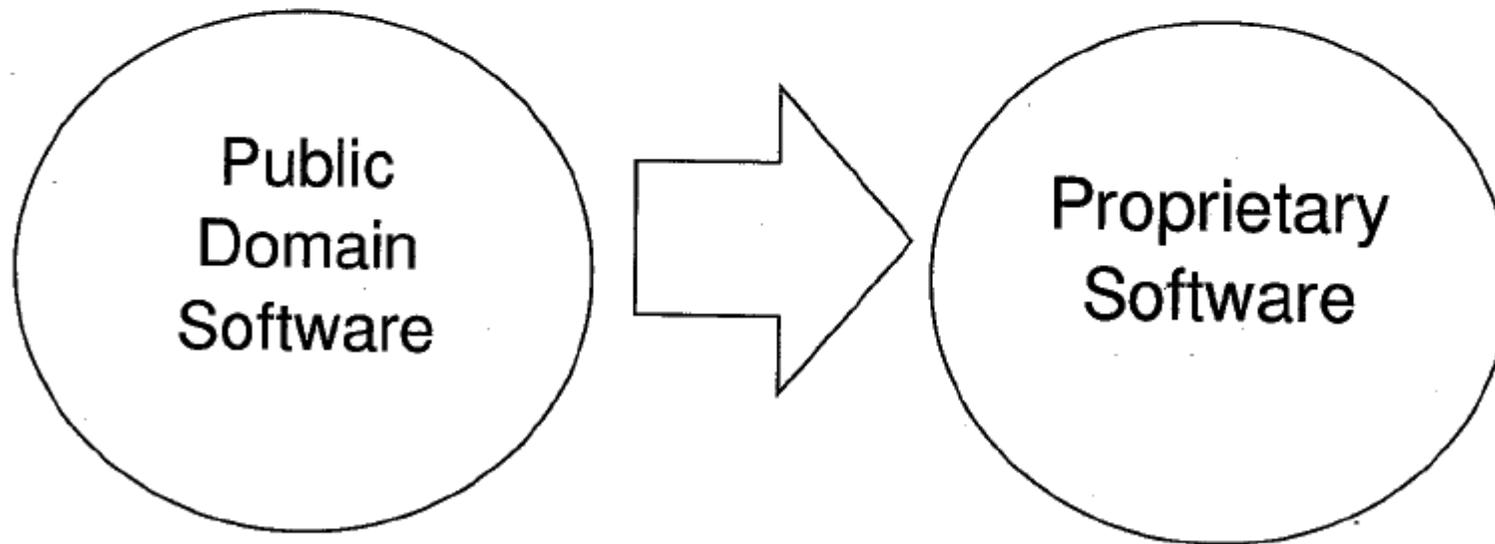
# Free Software Definition

- Freedom to run for any purpose.
- Freedom to change and modify.
- Freedom to copy and share.
- Freedom to share improvements.
- **All freedoms are commercial and non-commercial.**

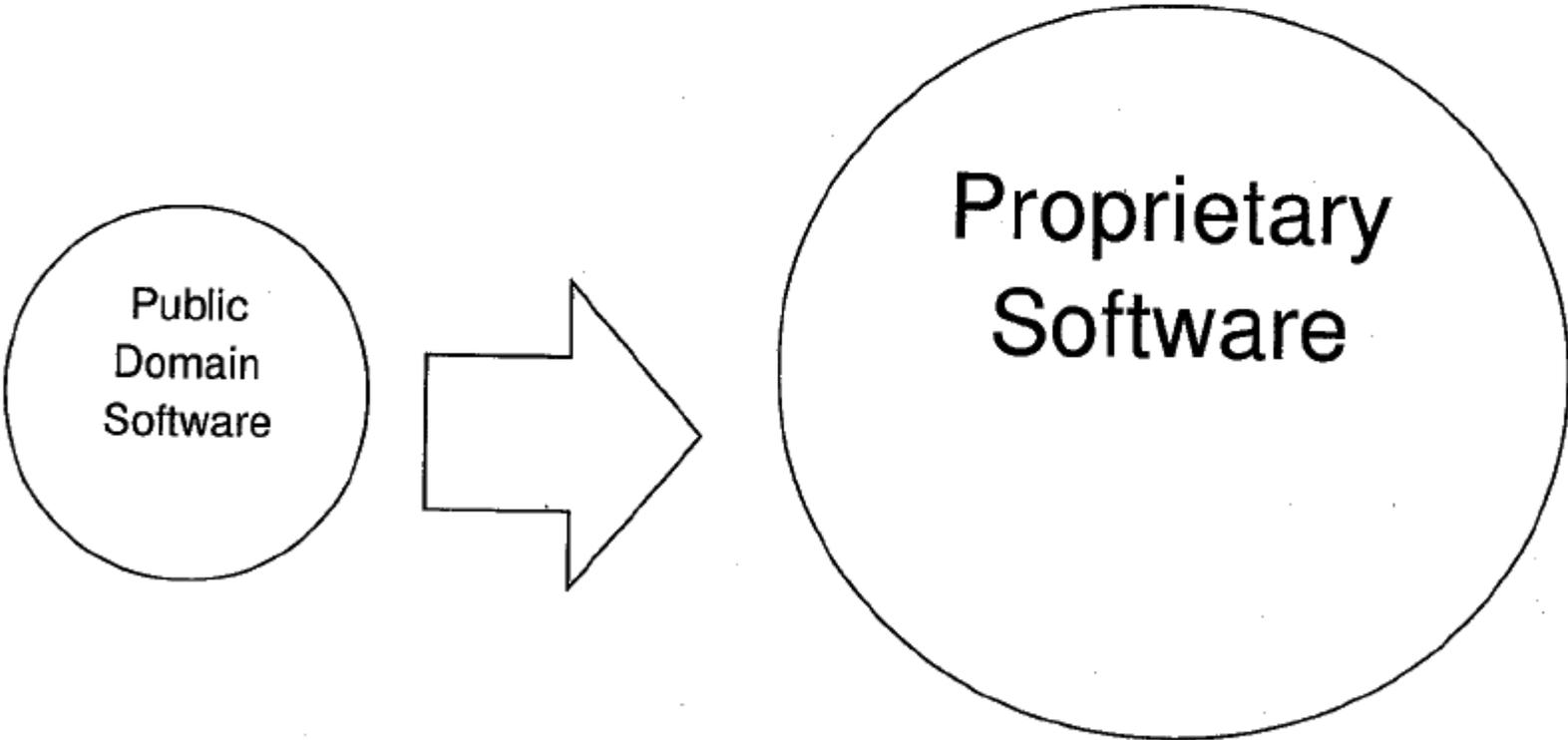
# **How Does Software Become Free? Public Domain?**

- Grants all the key freedoms.
- No copyright asserted.
- Can simply "feed" proprietary changes!

# Public Domain Feeds Proprietary Software



# Public Domain Feeds Proprietary Software

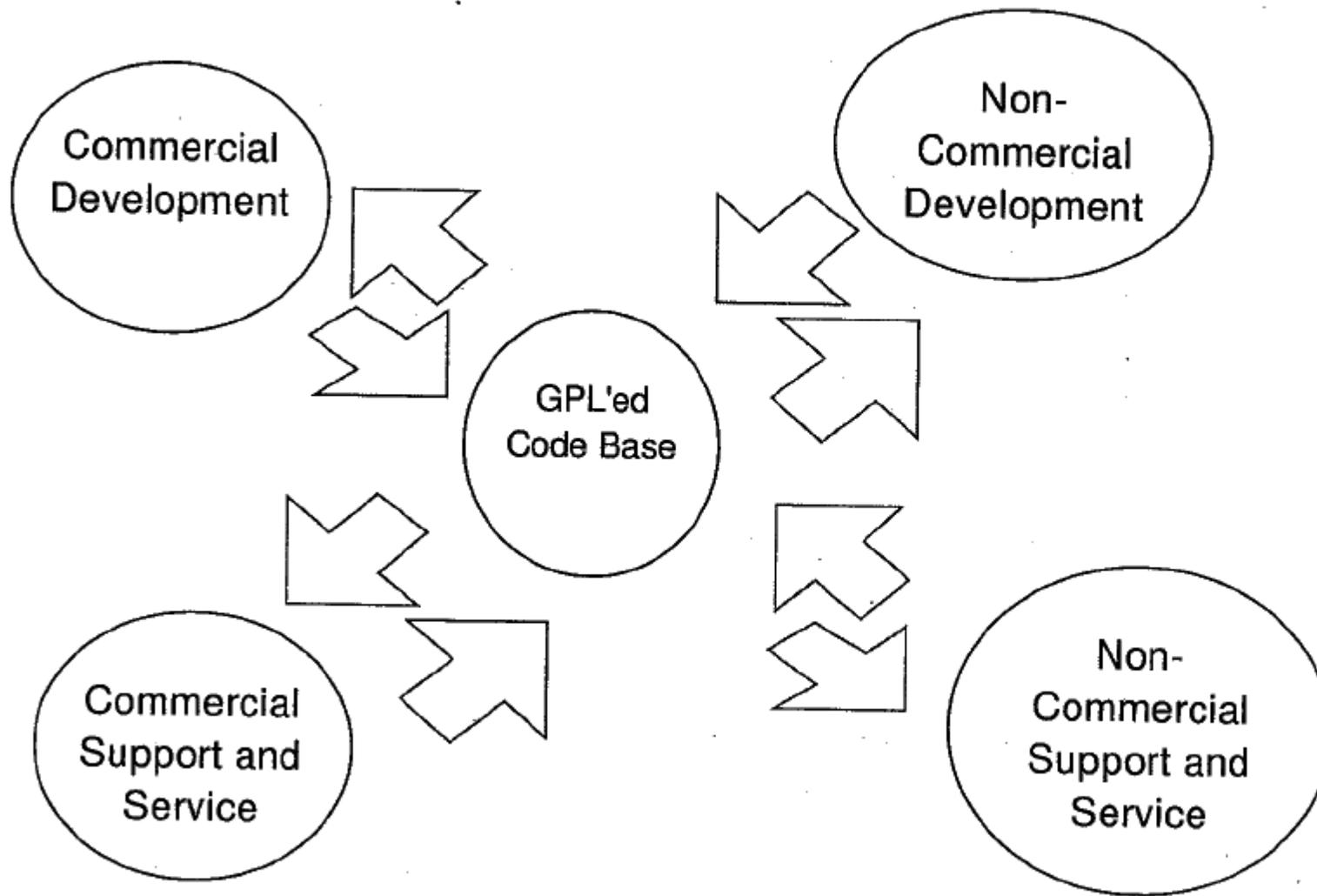


# How Is Freedom Protected?

- Copyright the software.
- Grant all key freedoms.
- Restrict activities that take freedom.
- **This concept is called "copyleft".**
- Copyright license that implements copyleft:

**GNU GPL**

# The GPL Ecosystem



# The Law Analogy

- Laws can be studied and learned freely.
- Lawyers write opinions and briefs.
- Texts fed into law's commons.
- Lawyers are paid to service the commons.
- Yet, no one defends oneself in court...
- ... there is a market for **experts**.
- GPL'ed commons works similarly.

# GNU GPL

## Section 0 - Asserting Copyright

- GPL is a copyright license
- Governs: copying, modifying, distributing
- Other activities **not** governed
- Particularly, fair and unregulated use

# GNU GPL

## Section 0 - Derivative Work Defined?

- "work based on ~~the Program~~"
- Copyright law gives definition
- ~~Would be problematic~~ for license to define
- Copyright law for software is new frontier

# GNU GPL

## Section 0 - Freedom to Run

- no restrictions on running of program
- asserts freedom even if copyright covers
- output only covered for "self outputting"  
software

# GNU GPL

## Section 1- Verbatim Copying

- Allow copying and distribution of source
- ... in any medium
- Keep in place copyright and related notices
- warranties can be sold, though.

## Derivative Works of Software

Daniel Ravicher will discuss the legal details of derivative works of software programs.

# Derivative Works: Statute and Case Law



Dan Ravicher  
Senior Counsel  
[ravicher@fsf.org](mailto:ravicher@fsf.org)

# Overview of Derivative Works Discussion

The Statute: Copyright Act Definitions and Rules

Case Law: Some Are Here, Some Are There, Some Are Nowhere

- Abstraction, Filtration, Comparison
- Analytic Dissection
- No Protection for “Methods of Operation”
- Still Mum

Example Fact Patterns

- Literal Copying
- No Literal Copying

What's Free Software to Do?

# Software Derivative Works: The Statute

## Copyright Act Definitions and Rules

- A “*computer program*” is a set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result. 17 U.S.C. § 101
- A “*derivative work*” is a ~~work based~~ upon one or more ~~preexisting works~~, such as a translation, ..., abridgment, condensation, or any other form in which a work may be recast, transformed, or adapted. 17 U.S.C. § 101
- “*In no case does copyright protection ... extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery...*” 17 U.S.C. § 102(b)
- Creating a Derivative Work is an ~~Exclusive Right~~ of the Copyright Owner. 17 U.S.C. § 106(b)

# Case Law: Some Are Here

## 2<sup>nd</sup> Cir AFC Test

### Abstract Ideas from Expression

- Mirrors Process of Software Creation
- E.g., Purpose --> Architecture --> Algorithms --> SC --> OC

### Filter Out Unprotectable Expression

- No Ideas (102(b)): Aided by Abstraction
- Merger and Scenes a Faire Doctrines
- Public Domain
- Lacks Sufficient Originality: Constants

### Compare Protectable Expression to Second Work

- Substantial similarity?

# Case Law: Some Are There

## 9<sup>th</sup> Cir Analytic Dissection Test

Identify substantial similarities in both ideas and expression

Use Analytic Dissection to Determine Protectable Features

Assign Level of Protection

- “Thin”: non-copyrightable facts or ideas combined in a way that affords protection only from their alignment and presentation
- “Broad”: copyrightable expression itself

Standard

- “Thin”: virtual identity
- “Broad”: substantial similarity

# Case Law: Some Are There

## 1<sup>st</sup> Cir “No Methods of Operation” Test

### No Protection for “Methods of Operation”

- Expressly rejects AFC
- Sec. 102(b) read broadly
  - “Method of Operation”: the means by which users operate computers, including the menu command hierarchy

# Case Law: Some Are Nowhere

4th Circuit: Virginia

7th Circuit: Chicago

**Supreme Court**

?

# Example Fact Patterns and Analysis

Clear Cut Literal Copying of Code

- Slam Dunk Derivative Work?

Clear Cut No Literal Copying of Code

- Slam Dunk Not Derivative Work?

Frequency of Such Issues Arising

- In Court
- In GPL Compliance Activities
- Possible Reasoning

# So Where are We?

## And Where is Free Software to Go?

Fact: The law of derivative work is uncertain, unpredictable and, gosh-darnit, frustrating in and of itself, regardless of whether Free Software or the GPL exists or not.

Fact: To affect activity outside the boundaries of Copyright Law requires rights be received through an ~~Enforceable Contract~~.

FSF's Philosophy re Software Distribution (aka Copyleft):

- Free Software Survives Best with Copyright Protection
- Abandoning Copyrights is Not the Best Way to Advance Free Software
- Copyright Licensing Better than Enforceable Contracting

# GPL Goes as Far as Copyright Law Takes Software Derivative Work ...

§ 0: “The ‘Program’, below, refers to any such program or work, and a ‘work based on the Program’ means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language.”

§ 2: “You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program”

§ 2(b): “You must cause **any work that you distribute or publish, that in whole or in part contains or is derived from the Program** or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.”

## ... But Not One Step Beyond That.

§ 2 (cont.): **"If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works.** But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, **the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.**

In addition, **mere aggregation of another work** not based on the Program **with the Program** (or with a work based on the Program) on a volume of a storage or distribution medium **does not bring the other work under the scope of this License.**"

# Recap of Derivative Works Discussion

The Statute: Copyright Act Definitions and Rules

Case Law: Some Are Here, Some Are There, Some Are Nowhere

- Abstraction, Filtration, Comparison
- Analytic Dissection
- No Protection for “Methods of Operation”
- Still Mum

Example Fact Patterns

- Literal Copying
- No Literal Copying

What's Free Software to Do?

# GNU GPL

## Section 2 - Distributing Modified Source

- Rules cover source
- Section 3 allows for binaries of such source
- 3 subsections (must meet all)
- Followed by explanation on some details

# **GNU GPL**

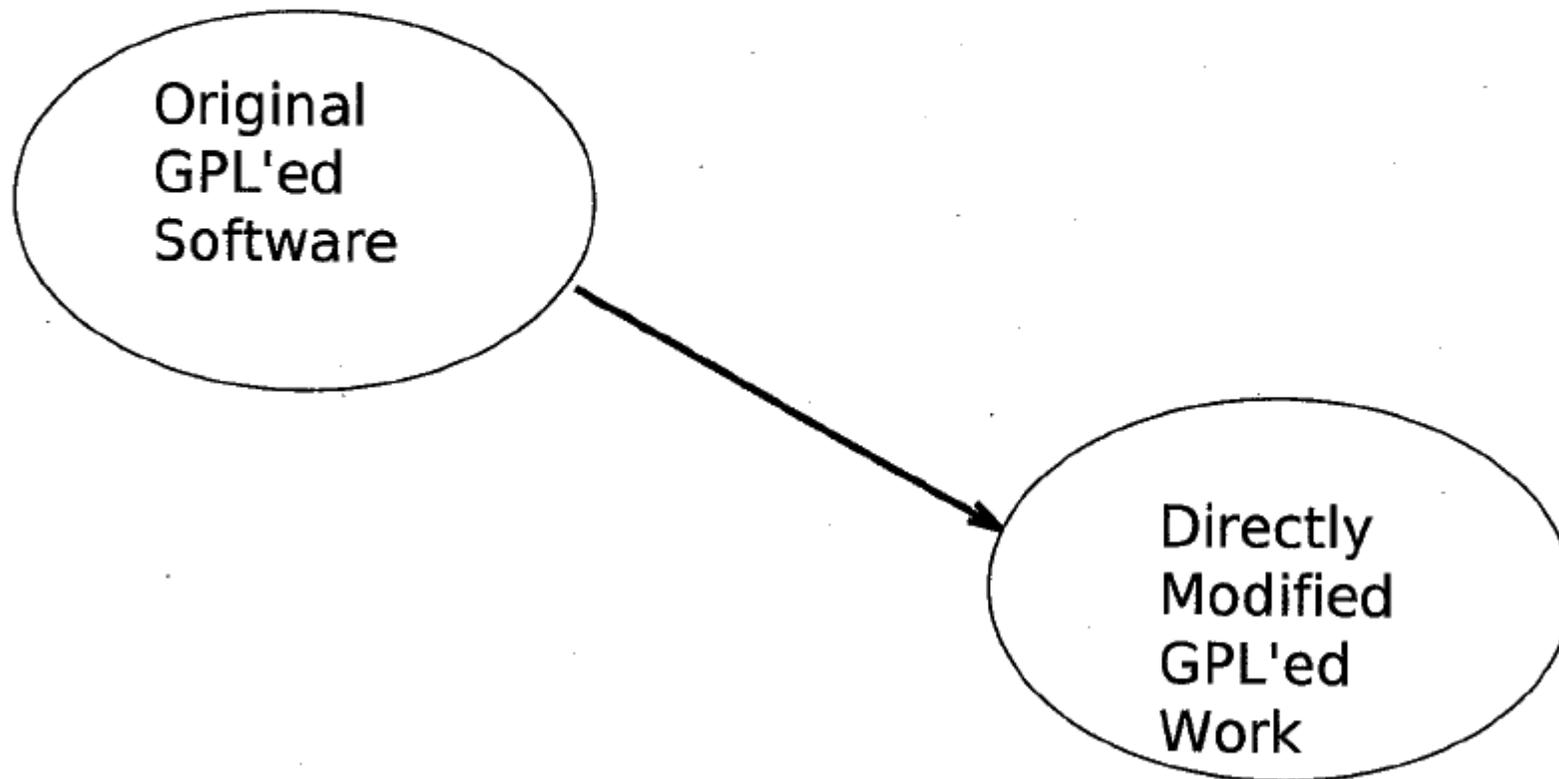
## **Section 2(a) - Mark Changes**

- prominent notices of changes
- date of changes
- requirement is interpreted liberally
- Goal: user knows it's non-canonical
- Goal: developers can build upon it

# GNU GPL

## Section 2(b) - Share and Share Alike

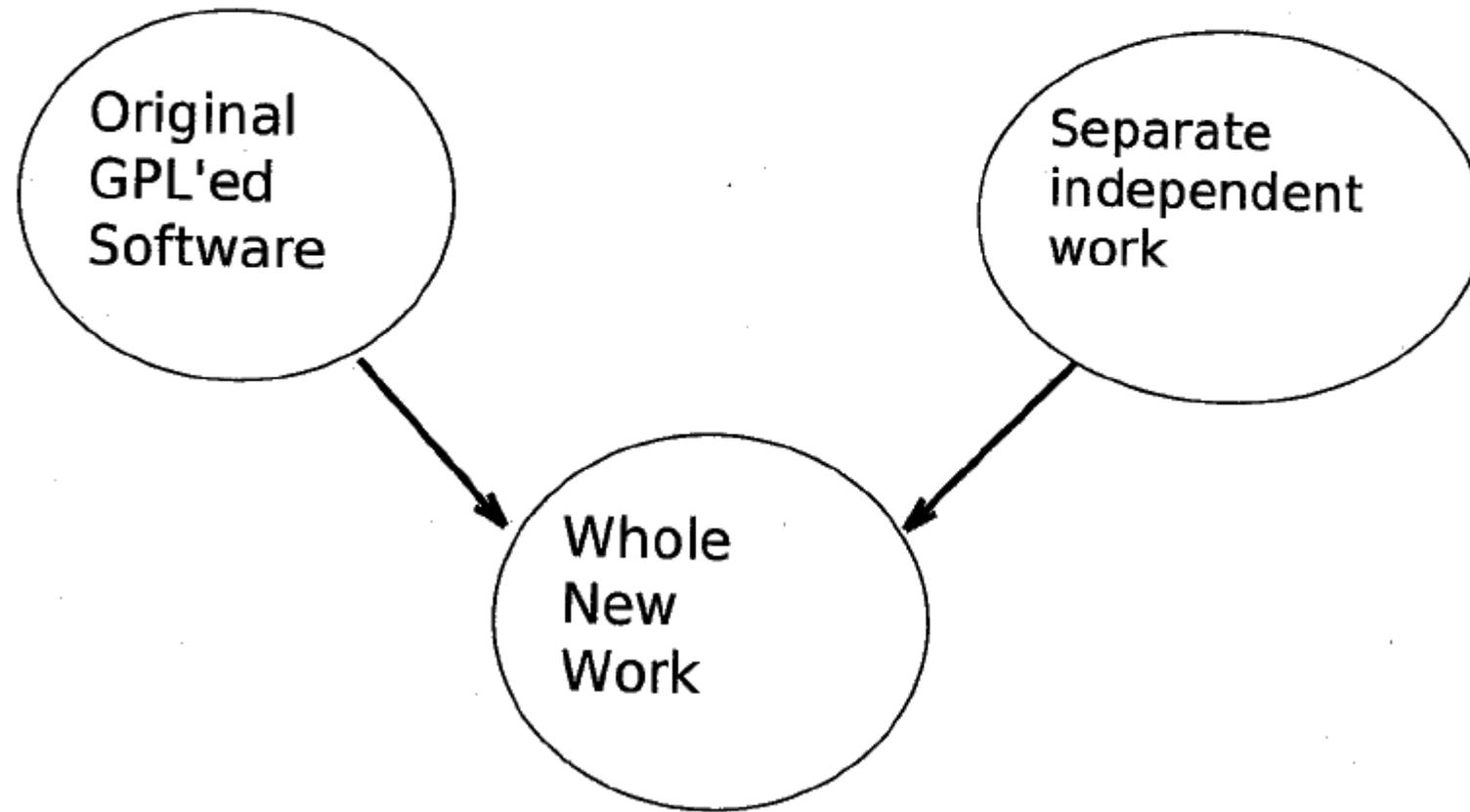
Applies to directly modified works



# GNU GPL

## Section 2(b) - Share and Share Alike

Only applies to **whole** derivative works



# **GNU GPL**

## **Section 2(b) - Share and Share Alike**

### **Right to Private Modification**

- Only applies when publishing/distributing
- Private derivative works always permitted
- Publishing is modifiers' prerogative

# GNU GPL

## Section 2(b) - Share and Share Alike

### 2(b)'s last 19 words

- "licensed as a whole"
- "at no charge": no **licensing** fees
- "to all third parties": later redistribution
- "terms of this License": **GPL**

# GNU GPL

## Section 2(b) - Share and Share Alike

### "Mere Aggregation"

- proprietary and free on same CD
- nothing like a virus:
- ... close proximity means nothing

# GNU GPL

## Section 2(c) - Interactive Run Clause

- requires preservation of specific feature
- interactive notice of license and warranty
- only if someone has added feature
- important issue for user freedom

# GNU GPL

## Sect. 3 - Distributing Binaries

- Binaries are objects or executables
- Computer needs them
- Are derivative works under copyright
- Thus, permission is needed
- Three options, choose one.
- Rest is clarification on 3(a)

# GNU GPL

## Sect. 3(a) - Source Provision

- machine-readable (no stone tablets)
- corresponding: what built binary?
- ✧ • complete and preferred form:

What would a programmer do?

## GNU GPL

Sect. 3(a) - Preferred and Complete

What Does a Programmer Need?

- Source in a form that one can use
- Scripts, Makefiles, build directions
- In short: What did **you** need?
- One exception....

# GNU GPL

Sect. 3(a) - Preferred and Complete  
"Major Components" Exception

- "Solaris" binaries exception
- Does average person with that platform have it?
- But, Sun is not off the hook!

# GNU GPL

## Sect. 3(b) - Offer for Source

- put it in writing
- valid for three years
- Internet URL not good enough!
- can charge costs **only**
- Obligations not complete at distribution

# GNU GPL

## Sect. 3(c) - Pass Along 3(b) Offer

- only for non-commercial use
- save users some trouble
- Reason 3(b) open to all 3rd parties

# The Implied Patent Grant in GPL



Dan Ravicher  
Senior Counsel  
[ravicher@fsf.org](mailto:ravicher@fsf.org)

# Ways to Convey Permission to Practice Patents

There are several ways for a third party to receive the legal right to practice patented technology

- Express License
- Equity: Laches and Estoppel
- Implied License: “No formal granting of a license is necessary in order to give it effect. **Any language** used by the owner of the patent, **or any conduct** on his part exhibited **to another from which that other may properly infer that the owner consents** to his use of the patent in making or using it, or selling it, upon which the other acts, **constitutes a license.**” *De Forest Radio*, 273 U.S. 236 (1927).

# GPL Silence = Implied License

GPL Contains No Express Patent Grant or License

- Does that mean NO Patent Permissions are Conveyed?

"Generally, when a seller sells a product without restriction, it in effect promises the purchaser that in exchange for the price paid, it will not interfere with the purchaser's full enjoyment of the product purchased. The buyer has *an implied license under any patents of the seller that dominate the product or any uses of the product to which the parties might reasonably contemplate the product will be put.*" *Hewlett-Packard Co. v. Repeat-O-Type Stencil Mfg. Corp., Inc.*, 123 F.3d 1445 (Fed. Cir. 1997).

Issues for GPL'd Software: "seller" "sells"; "without restriction"; "any uses ... to which the parties might reasonably contemplate."

# Law of Implied Patent License Comports with Goals of Free Software

“Unless the parties provide otherwise, the purchaser of a patented article has **an implied license not only to use and sell it, but also to repair it** to enable it to function properly. This **implied license covers** both the original purchaser of the article and **all subsequent purchasers**.” Bottom Line Mgmt., Inc. v. Pan Man, Inc., 228 F.3d 1352 (Fed. Cir. 2000).

→ Result is a Positive Network Effect: The entire community that participates in GPL'd software improvement benefits from all implied patent licenses made to any member of the community.

# Are the Patent Portfolios of GPL Software Distributors Worthless?

Despite Implied License, Patents Remain Valid and Enforceable

- Against any software other than the software licensed by the patent holder under the GPL; and
- Against any party that does not, itself, comply with the GPL in distribution of the patent holder's software.

Is Competitive Advantage Lost by GPL's Implied Patent License?

# GPL Ensures Software Avoids Patents

§ 7: “If ... conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. ... **[[If a patent license would not permit royalty-free redistribution of the Program, ... then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.**”

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; **this section has the sole purpose of protecting the integrity of the free software distribution system** .... Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.”

§§ 2(b) and 6: GPL'd software (and derivative works thereof) can only be distributed by you under the GPL ... without any further restrictions.

# GNU GPL

## Sect. 4 - Termination

- Where all enforcement happens.
- Copyright rights "off" by default.
- GPL turns some on.
- Nothing else gives permission.
- Violate the license ->  
your license terminates.

# GNU GPL

## Sect. 5 - Acceptance (GPL-style)

- GPL is **not** a contract; it's a copyright license
- How does one accept?
- Acceptance is indicated by undertaking:
  - copying, modifying, and/or distributing

# **GNU GPL**

## **Sect. 6 - GPL and only GPL**

**No restrictions beyond GPL imposed.**

**Automatic license to third parties.**

**Indemnity from third-party violation.**

# GNU GPL

Sect. 7 - "Give My Software Liberty or Give It Death!"

- Legal systems besides copyright can cover software: patents, contracts, court orders.
- Ensures agreements never trump GPL.

# GPL Section 0-7 Summary

- Section 0: run the program for anything.
- Section 1: sharing source
  - credit where credit is due.
- Section 2: Modifications - with copyleft.
- Section 3: Source with binaries!
- Section 4: Termination on violation.
- Section 5: Acceptance by acting.
- Section 6: GPL and only GPL...
- Section 7: ... and nothing may trump it.

# GNU GPL

## Section 8 - Excluding Unfreedomia

- Copyright Holder can limit distribution
- Avoid countries with Draconian patent or copyright law

## **GNU GPL**

### **Section 9 - FSF As Stewards of GPL**

- FSF has exclusive right to update GPL
- Not done often
- will entail long input process from all stakeholders

# GNU GPL

## Section 10 - Relicensing Permitted

- Reminder of fact already true under copyright law
- It is common in Free Software world

# **GNU GPL**

## **Section 11 - Warranty Disclaimer**

- disclaims all warranties that can be disclaimed
- One can always sell warranties

# GNU GPL

## Section 12 - Limitation of Liability

- Some warranties in some jurisdictions cannot be disclaimed
- This handles liability in those cases Section 11 missed

# GNU LGPL

## 1st LGPL'd Program: glibc

- Needed more lax license to reach a larger goal
- All programs link with the C Library
- A windfall?
- Too many existing implementations
- Users would still get some freedom w/ library



# **GNU LGPL**

## Halfway from GPL to X11 License

- Most terms mirror the GPL terms
- Allows certain proprietary derivative works
- Makes sure the LGPL'ed code and its direct improvements remain Free

# GNU LGPL

## Additions to Preamble:

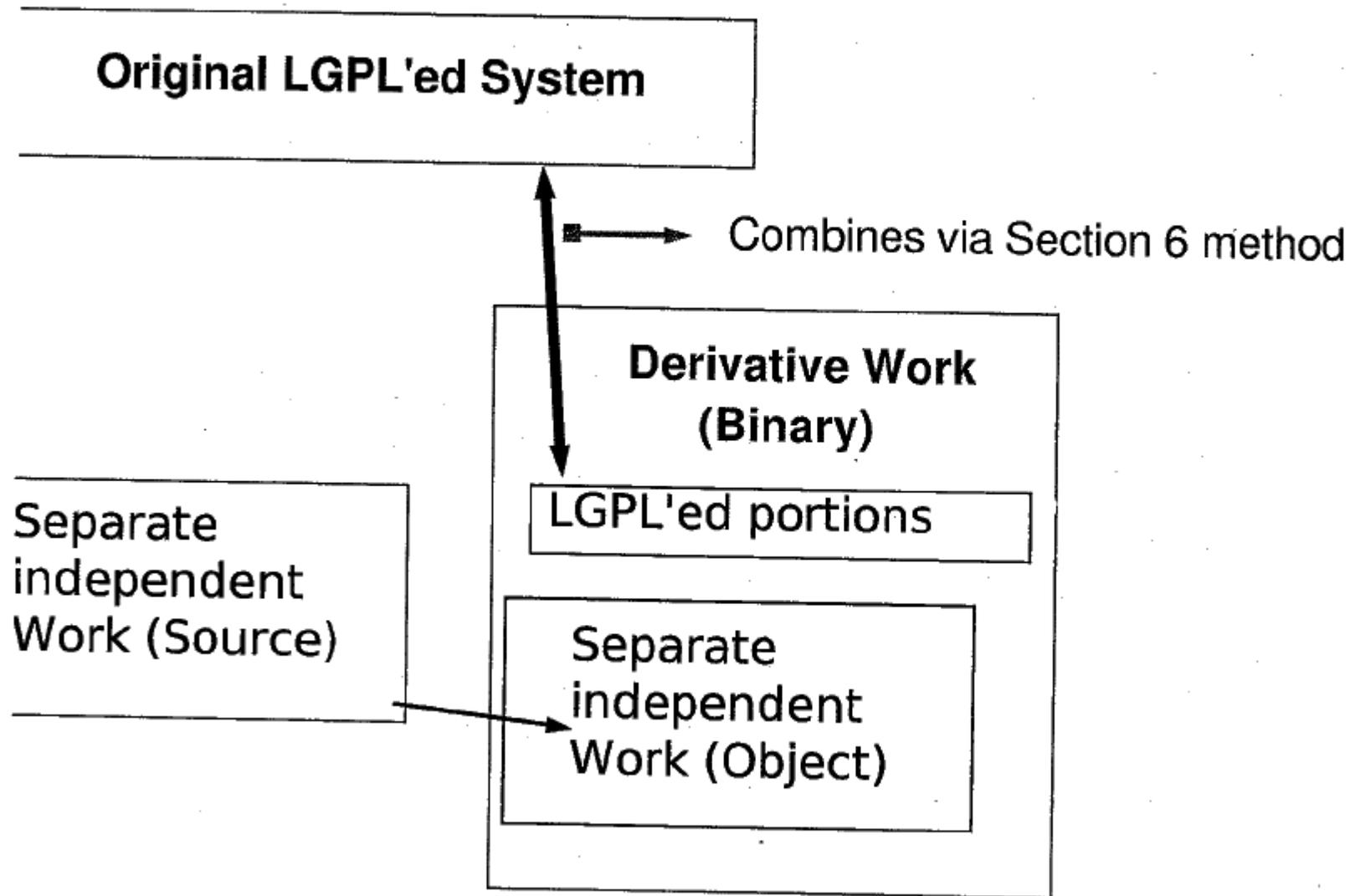
### When use LGPL?

- encourage creation of Free de-facto standard
- adoption of interface-identical Free alternative
- add some level of freedom to otherwise-proprietary products



# GNU LGPL

## "Works that uses the library"



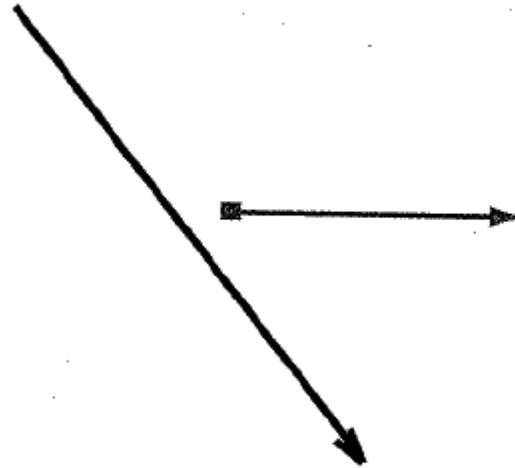
# GNU LGPL

"Works based on the library"

**Original LGPL'ed  
System**

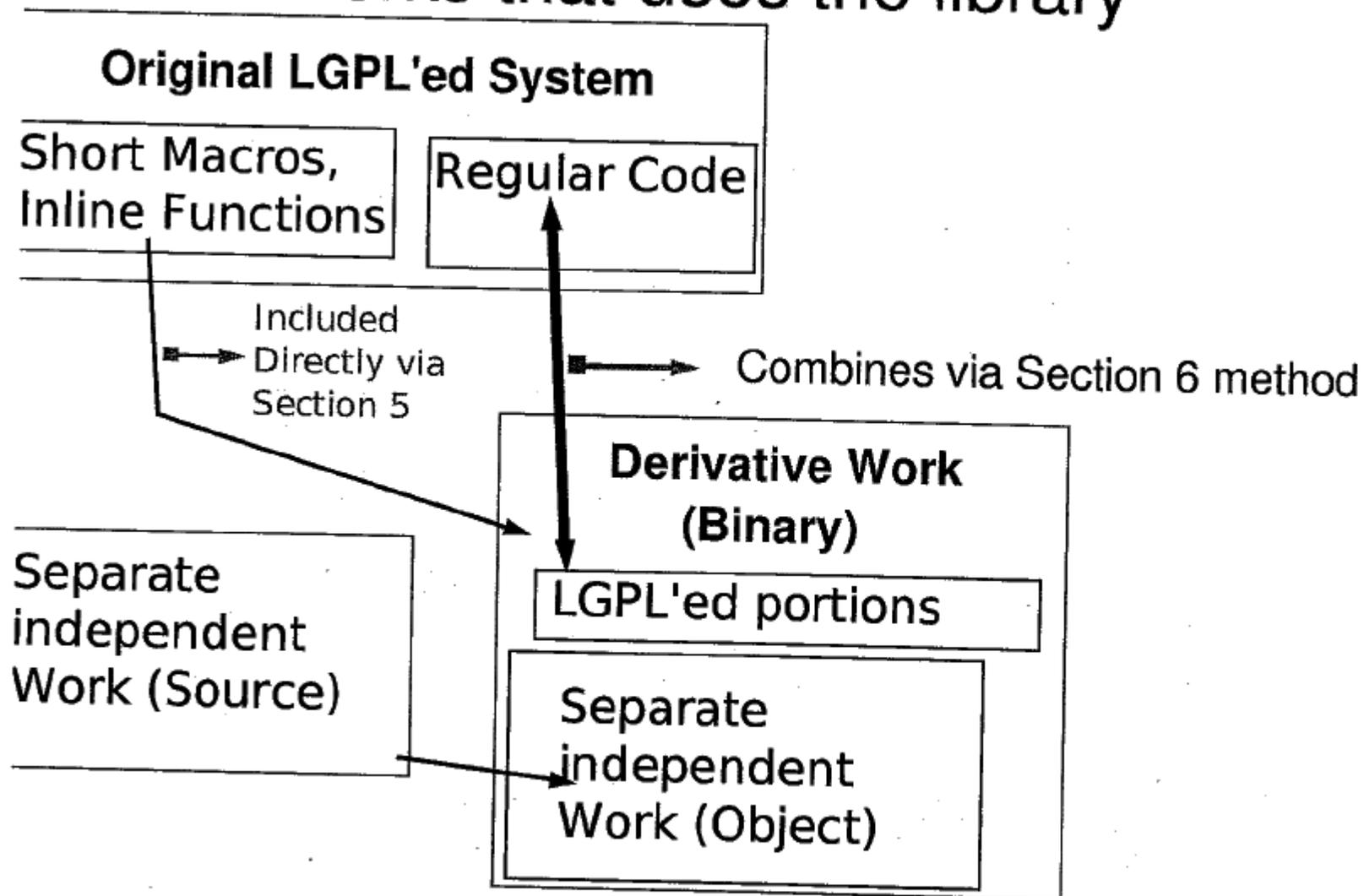
Must LGPL changes  
made by modifying or  
adding to the work via  
a method other than  
simply linking with  
some separate work.

**Directly Modified  
LGPL'ed System**



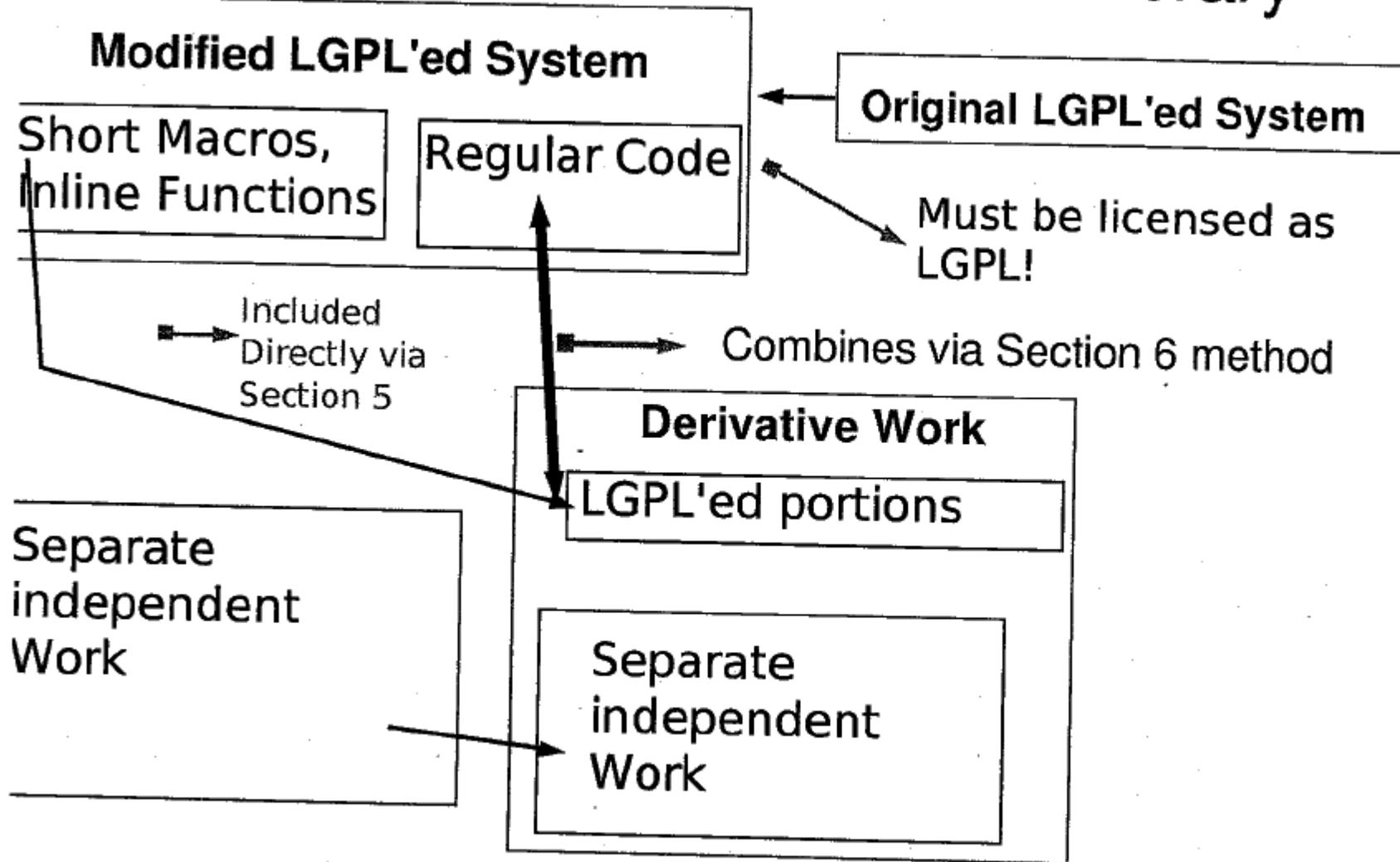
# GNU LGPL

## "Works that uses the library"



# GNU LGPL

## "Work that uses and is based on library"



# GNU LGPL

## Section 6 Options

- dynamic linking: easiest and most straightforward
- allow user to relink: object code needed
- user must be able to debug modifications
- may require "chasing" a bug into separate work:  
license must not restrict

# GNU LGPL

## ... And the Rest

- "upgrade" from LGPL to GPL
- binary distribution only of library: Like GPL S. 3
- aggregating libraries: SDKs of mixed proprietary and LGPL
- user must be informed of LGPL content



# Common Business Models

- Installation and Configuration
- Support Contracts
- Customization and Improvement Contracts
- Sale of "box sets"
- Proprietary Relicensing

# The Purpose and Intent of the GNU General Public License

Bradley M. Kuhn <bkuhn@fsf.org>  
Executive Director, Free Software Foundation

Some URLs:

<http://www.fsf.org/>

<http://www.fsf.org/licenses/>

<http://www.fsf.org/licenses/gpl.html>

<http://www.fsf.org/licenses/gpl-faq.html>

<http://www.fsf.org/licenses/license-list.html>

<http://www.fsf.org/licenses/gpl-howto.html>

<http://www.fsf.org/cgi-bin/license-quiz.cgi>

Copyright © 2003, 2004  
Free Software Foundation.

Verbatim copying, distribution and public  
performance of these slides in any medium is  
permitted provided this notice is preserved.

Thank You!



Dan Ravicher  
Senior Counsel  
ravicher@fsf.org