Virtual Footnotes: Printable Version

This version of the footnotes is provided for the convenience of readers who prefer a hardcopy, which they can take with them, to an online. I have noted which references are webbed but have not provided URL's, since they are only useful if you have web access and if you have web access you can use the online virtual footnotes, which provide links to the webbed material.

Each note is labeled both by the page where it occurs and by the type of marginal icon that refers to it.

Many of the points made here were contributed by early readers of the manuscript. I am especially grateful to Richard Posner for correcting a considerable number of my mistaken or incomplete views on legal questions. Neither he nor anyone other than myself is responsible for such errors as remain.

The icons in the book correspond to the situation at the time the book was produced. In some cases, a book or article that was unavailable online, and so represented as a cite rather than online text, may become available later, in which case (assuming I notice) I will add a link to it. In other cases I may think of an additional item that should have been marked as an icon in the book, but was not--and add it to the web page.

In order to do an adequate job of producing this web page, including all of the case cites, out of my own head, I would have to be an expert on almost all of the traditional core subjects of the law. I know at least two people who qualify--oddly enough, they share a first name--but I am not one of them. I have instead relied heavily on secondary sources for cases and descriptions. The three most important are:

Dukeminier, Jesse and Krier, James, Property, 3d edn., Little, Brown and Co. 1993.

Epstein, Richard, Cases and Materials on Torts 5th edn., Little, Brown and Co. 1990.

Posner, Richard, Economic Analysis of Law, 5th edn., Little, Brown and Co. 1998.

Introduction

Page 3 (additional comments):

For one example of such private legal rules, consider the rules of polite behavior. While details vary in different parts of our society, it is generally true that there are things you can say or do which are not illegal but will have bad consequences for you--because other people will disapprove and alter their behavior towards you as a result. Another example would be the internal rules of a firm, defining what sorts of behavior may result in dismissal or other adverse consequences. Rules of behavior in a family are a third example--and, as any parent knows, they are not limited to rules that the parents impose on their children.

Page 6 (additional comments):

If a case or article is relevant to more than one part of the book, it may appear more than once on the web page. A case cited in the book may also be on the web page--because the webbed cite permits readers with Westlaw axis to go directly to the case. And an article may be in the references at the end of the chapter and also on the web page, signalled by an icon at the point in the chapter where the article is relevant.

This page is a work in progress--and will be for many years. Feel free to suggest additions or corrections.

Page 4 (cite to webbed material):

Barkow, J.H., Cosmides, L. & Toobey, J. *The Adapted Mind*. New York: Oxford University Press (1992). A less academic and more accessible presentation of some of the same ideas can be found in Steven Pinker, How the Mind Works. (W.W. Norton & Co., N.Y. 1997). An introduction to evolutionary psychology by Toobey and Cosmides is available online.

Page 3 (cite to webbed material):

Article: For Iceland, see D. Friedman, "Private Creation and Enforcement of Law -- A Historical Case." *Journal of Legal Studies*, (March 1979), pp. 399-415.

For Homeric Greece, see Posner, R. 1981. *The Economics of Justice*. Cambridge, MA: Harvard University Press., 119-227.

For Papua New Guinea, see Robert Cooter, "Inventing Market Property: The Land Courts of Papua New Guinea," 25 *Law and Society Review* 759 (1991).

The norms of Shasta Country are discussed in Chapter 17 of this book and, at greater detail, in D. Friedman, "Less Law than Meets the Eye,"*The Michigan Law Review* vol. 90 no. 6, (May 1992) pp.1444-1452. and in Robert Ellickson, *Order Without Law*, the book that the article is a review of.

See also Robert C. Ellickson, "A Hypothesis of Wealth Maximizing Norms: Evidence from the Whaling Industry," 5 *J.L. Econ & Org.* 83, 84 (1989)

Readers interested in a much more extensive discussion of norms may want to look at Eric Posner's new book, *Law and Social Norms*.

Chapter 1

Page 10 (case cite):

An early case on the implied warrantee of habitability is *Lemle v Breeden*, Supreme Court of Hawaii (1969), 51 Hawaii 426, 51 Hawaii 478, 462 P.2d 470, 40 A.L.R. 3d 637. The implied warrantee found by the court included the absence of rats--even though the owner had occupied the premises before the tenant moved in and the agent of the owner

attempted to deal with the problem. It was not clear whether the rats came from the house or from the outside.

Defenses of the shift from caveat emptor/freedom of contract to the implied warrantee of habitability can be found in *Pugh v. Holmes*, Supreme Court of Pennsylvania (1979) 486 Pa. 272, 405 A. 2d 897 and *Javins v. First National Realty* Corporation, United States Court of Appeals, District of Columbia Circuit, 1970. 428 F.2d 1071, cert. den., 400 U.S. 925 , 91 S.Ct. 186 , 27 L.Ed.2d 185 (1970). In the latter case, the Court of Appeals, J. Skelly Wright, Circuit Judge, held that the warranty of habitability, measured by the standard set out in the Housing Regulations for the District of Columbia, is implied by operation of law in all leases, whether oral or written and for all types of tenancies, of urban dwelling units covered by those regulations and that breach of such warranty gives rise to usual remedies for breach of contract. May 7, 1970.

The Califonia Supreme Court adopted the implied warrantee of habitability *in Green V. Superior Court*, 10 Cal.3d 616 , 111 Cal. Reptr. 704 , 517 P.2d 1168 (1974)

For an academic discussion of the rise of the doctrine, see:

Rabin, "The Revolution in Residential Landlord-Tenant Law: Causes and Consequences, 69 *Cornell L. Rev.* 517 (1984).

Page 10 (additional comments):

In *Down and Out in Paris and London*, George Orwell describes the very low cost (and low quality) accommodations available to very poor people in England in the 1930s. In the U.S. at present, such accommodations would be illegal--probably in every major city. That may be one reason for homelessness.

At least two things are interesting about Orwell's account of the situation in London at the time. One is that he compares the for-profit accommodations favorably with the accommodations provided by the Salvation Army--on the grounds that although the latter are physically more attractive, the former have a "laissez-faire" approach to their customers and don't try to keep them from enjoying themselves.

The other is that, after describing what is obviously a competitive industry to provide very low cost housing, Orwell suggests "improving" it a little by imposing some minimal quality requirements, such as walled off cubicles instead of dormitory style sleeping arrangements. It apparently does not occur to him that, in a competitive market, higher cost housing will have a higher price--or that if very poor people were willing to pay that price, it would pay entrepreneurs to provide that housing.

Page 11 (cite to webbed material):

Chapter 7 of my (webbed) *Price Theory* contains a more detailed analysis of the effect of a restriction on the terms of a rental contract.

Page 14 (case citation):

Fontainebleu Hotel Corp. v. Forty-Five Twenty-Five, Inc.,114 So. 2d 357 (1959).

Page 14 (cite to a book or article):

Coase, R.H., "The Problem of Social Cost," *3 J. LAW & ECON*. 1-44

(1960).

Page 15 (cite to a book or article):

For an interesting essay on public choice, available online in pdf format, see J. Mark Ramseyer, *Public Choice* (November 1995).

Works on public choice include:

Becker, G. "A Theory of Competition Among Pressure Groups for Political Influence," *Quarterly Journal of Economics*, vol. 98 (1983), pp. 371-400. 98 *Q.J. Econ* 371

Black, D., *The Theory of Committees and Elections*. Cambridge: Cambridge University Press, 1958.

Buchanan, J. M., "Rent-Seeking and Profit-Seeking," chapter 1 in Buchanan, J.M., Tollison, R.D., and Tullock, G. (eds.), *Toward a Theory of the Rent-Seeking Society*.College Station, Texas: Texas A&M University Press, 1980.

Buchanan, J. M. and Tullock, G., *The Calculus of Consent*. Ann Arbor: University of Michigan Press, 1962.

Anthony Downs, A., *An Economic Theory of Democracy*, (New York: Harper & Row, 1957)

Hardin, R., *Collective Action*. Baltimore and London: The Johns Hopkins Press, 1982.

Mueller, D.C., *Public Choice II: A Revised Edition of Public Choice.* Cambridge: Cambridge University Press, 1989.

Mueller, D.C., *Perspectives on Public Choice: A Handbook*. United Kingdom: Cambridge University Press, 1997.

Niskanen, W.A. *Bureaucracy and Representative Government*. Chicago and New York: Aldine Alterton Inc., 1971.

Olson, M. Jr, *The Logic of Collective Action: Public Goods and the Theory of Groups*. Cambridge, Massachusetts: Harvard University Press, 1965.

There is also a discussion of public choice theory in Chapter 19 of *Price Theory* .

Page 16 (cite to a book or article):

Paul H. Rubin, "Why is the Common Law Efficient?", 6 *JLS* 51 (1977).

Page 9 (additional comments):

"It is better that ten guilty persons escape punishment than that one innocent suffer." - Blackstone, *Commentaries*. I have not yet found a webbed version of this, although there is one that is supposed to be up shortly.

Chapter 2

Page 18 (cite to webbed material):

Alfred Marshall, *Principles of Economics*, Book III Chapter 6.

Page 24 (cite to a book or article):

See "The Efficiency of the Legal System versus the Income Tax in redistributing Income." Louis Kaplow & Steven Shavell. *Journal of Legal Studies*, Vol. XXIII, no. 2, pp. 667-681, (June 1994).

A later working paper by the authors on the same topic is available online.

I first heard a version of their argument in a talk by Professor Yew-Kwang Ng of Monash university many years ago, but have not yet located a published version.

Page 24 (cite to webbed material):

An interesting mid 19th century summary of the legal status of women in Victorian England, including an explanation of coverture, is available online. My favorite passage:

"The church and nearly all offices under government are closed to women. The Post-office affords some little employment to them; but there is no important office which they can hold, with the single exception of that of Sovereign."

Blackstone's summary of the legal rights of women in England in the 18th century is also available online.

An earlier explanation of coverture:

"The next thing that I will show you is this particularitie of law; in this consolidation which we call wedlock is a locking together; it is true that man and wife are one person, but understand in what manner. When a small brooke or little river incorporateth with Rhodanus, Humber, or the Thames, the poore rivulet loseth her name, it is carried and recarried with the new associate, it beareth no sway, it possesseth nothing during coverture. A woman as soone as she is married is called covert, in Latine nupta, that is vailed, as it were clouded and overshadowed she hath lost her streame. * * I may more truly farre away say to a married woman, her new selfe is her superior, her companion, her master. The mastership shee is fallen into may be called in a terme which civilians borrow from Esop's Fables, Leonina societate."

(*The Lawe's Resolutions of Women's Rights*, A.D.1632.)

Page 25 (cite to webbed material):

Chapter 15 of my (webbed) *Price Theory* text discusses efficiency in more detail.

Page 26 (cite to webbed material):

The analysis of how markets work can be found in chapters 3-9 of my *Hidden Order*, and, webbed, in Chapters 3-9 of *Price Theory* .

Chapter 3

Page 28 (cite to webbed material):

Chapter 18 of my (webbed) *Price Theory* text discusses different forms of market failure, including pecuniary externalities.

Page 29 (cite to webbed material):

For more details, see Chapter 16 of *Price Theory* . The proof sketched there builds on material earlier in the book--all of which is webbed.

Page 30 (cite to a book or article):

Pigou discusses the idea of Pigouvian taxes in Chapter IX *of The Economics of Welfare*, 4th edn., especially in §13, pp. 192-194.

Page 30 (cite to a book or article):

In "Rent Seeking Behind the Green Curtain" by Jonathan H. Adler 1996, *Regulation* issue 4 pages 26-34, the author mentions a discussion of the 1977 Clean Air Act amendments that required scrubbers rather than allowing the switch to low sulfur coal occur as an endogenous response to coal emissions policy. The article lists the original source for the argument as *Clean coal/dirty air : or how the Clean air act became a multibillion-dollar bail-out for high-sulfur coal producers and what should be done about it*, by Bruce A. Ackerman and William T. Hassler New Haven : Yale University Press, c1981.

Page 31 (additional comments):

I have described only one of several approaches to using Pigouvian taxes to control pollution--an effluent fee, a fixed price per unit of pollution produced. At least two other ways of doing essentially the same thing have been discussed in the literature and

employed in practice: auctioning pollution permits, and granting firms transferable pollution permits.

With an auction system, the EPA or equivalent first decides how much pollution it is willing to tolerate--say a million pounds per year of SO2.It then auctions off permits for that amount of pollution, letting the market set the price. A firm that wants to emit a hundred pounds a year must buy permits for that amount. So the price of the permit plays the same role in this system as the effluent fee in the system described in the text.

Using an auction instead of an effluent fee makes sense if the EPA has better information about what the optimal quantity is than about how much damage one more unit of pollution does. Imagine a situation where a particular sort of pollution produces negligible effects below some level, and very serious effects above it, perhaps because that is the level that can be adequately dealt with by natural processes. By auctioning a number of permits slightly below the critical level, the EPA gets roughly the efficient amount of pollution, without having to somehow measure the amount of damage done by one more pound of pollution.

Under the third alternative, the EPA creates permits but instead of auctioning them off, it allocates them to someone else--typically to the firms currently doing the pollution. Suppose, for example, the EPA decides that a particular pollutant ought to be reduced to 90% of last year's level. Further suppose it knows how much of that pollutant each firm produced last year. It issues each firm permits for 90% of last year's pollution. The firms are then free to trade permits among each other. So if my firm finds that it can easily reduce its pollution to 50% of last year's level, it does so, and sells the surplus permits to other firms that find it hard to cut back even to 90%.

Here again, the price of the permit plays the same role as an effluent fee. This is obvious in the case of a firm that wants to emit more of the pollutant than it has permits for, and must buy additional permits in order to do so. It is also true, although less obvious, for a firm that is selling permits. The more it pollutes, the fewer permits remain to be sold, so part of the cost to it of an additional unit of pollution is the lost revenue from not being able to sell the permit for that unit to someone else.

Like the auction, a system of transferable permits makes sense if we have better information about how much pollution we want than about how much damage an additional unit of pollution causes. Its advantage is that the firms, which are made worse off by an effluent fee or an auction, are compensated by having the permits allocated to them, which is likely to reduce the political opposition to pollution control. One disadvantage is that firms that anticipate such a system coming into existence have an incentive to produce lots of pollution now, in order to be allocated lots of permits when the system is established.

This is one example of a more general issue: When legal rules change, how should the associated costs be distributed? At one extreme, the change can be designed to minimize its effect on the distribution of income--as with transferable permits. At the other extreme, it can be designed to punish past instances of the behavior that is now being penalized--for instance, by making the rules retroactive, requiring firms to buy permits to cover past as well as present pollution.

Consider the same issue in the context of one of the most controversial legal changes in American history--the abolition of slavery. One approach, actually followed to some degree in a number of other countries, was for the government to buy the slaves from their owners, and free them. That has the advantage of reducing opposition to the change. The opposite approach is to not only free the slaves without compensating their owners--what actually happened in the U.S.--but to also make the owners liable to the freed slaves for the cost imposed on them by being enslaved in the past. This has the advantage of giving a slave owner who anticipates the change an incentive to free his slaves before he has to, in order to reduce future liability. I discuss these issues in "Choosing Metarules for Legal Change," webbed on my site.

Page 32 (cite to a book or article):

"This is like the case of 11 H. 4, 47. One schoolmaster sets up a new school to the damage of an intient school, and thereby the scholars are allured from the old school to come to his new. (The action was held there not to lie.)"

Holt, C.J. in *Keeble v. Hickeringill*, QB, 1707, 11 East 574, 103 Eng. Rep. 1127. An 18th century judge citing a case from 1410.

Page 33 (cite to a book or article):

Anne Krueger, "The Political Economy of the Rent-Seeking Society," *American Economic Review* vol. 64 (June 1974), pp. 291-303.

Page 34 (cite to a book or article):

Louis Kaplow, "The Value of Accuracy in Adjudication: An Economic Analysis," *JLS* XXIII(1) (Pt. 2) January 1994, 307-401 provides an economic analysis of the value of more accurate adjudication.

Page 34 (cite to a book or article):

"The fraud on the market theory is based on the hypothesis that, in an open and developed securities market, the price of a company's stock is determined by the available material information regarding the company and its business.... Misleading statements will therefore defraud purchasers of stock even if the purchasers do not directly rely on the misstatements.... The causal connection between the defendants' fraud and the plaintiffs' purchase of stock in such a case is no less significant than in a case of direct reliance on misrepresentations." *Basic Inc. v. Levinson.* 485 U.S. 224,108 S.Ct. 978. March 7, 1988.

Jonathan Macey and Geoffrey Miller, "Good Finance, Bad Economics: An Analysis of the Fraud-on-the-Market Theory, *42 Stan. L. Rev*. 1059 (1990).

Chapter 4

Page 36 (cite to a book or article):

The classic English case on strict liability vs negligence is known, in its various incarnations as it worked its way up to the House of Lords, as

Fletcher v. Rylands 3 H. & C. 774 (Ex. 1865), L. R. 1 Ex. 265 (1866),

Rylands v. Fletcher L.R. 3 H.L. 330 (1868).

Page 38_ccite

Sturges v Bridgman, 11 Ch. D. 852 (1879) is an analogous case with 19th century technologies, cited by Coase. The "factory" was making candy; the "recording studio" was a neighboring physician, who, eight years after he moved to the location, built a consulting room "at the end of his garden, right up against the confectioner's kitchen," and discovered that it was too noisy for sensitive procedures such as listening to a patient through a stethoscope.

Page 40 (cite to webbed material):

Various approaches to the private production of public goods are discussed in Chapter 18 of my (webbed) *Price Theory* .

Page 41 (cite to a book or article):

Meade, James E. (1952), 'External Economies and Diseconomies in a Competitive Situation', *62 Economic Journal*, 54-67.

Page 42 (cite to a book or article):

Cheung, Steven N.S. (1973), 'The Fable of the Bees: An Economic Investigation', 16 *Journal of Law and Economics*, 11-33.

Gould, J.R. (1973), 'Meade on External Economies: Should the Beneficiaries Be Taxed ?', 16 *Journal of Law and Economics*, 53-66.

Johnson, David B. (1973), 'Meade, Bees, and Externalities', 16 *Journal of Law and Economics*, 35-52.

Page 43 (cite to a book or article):

Louis Kaplow, "Rules Versus Standards: An Economic Analysis," *Duke Law Journal* volume 42 (December 1992) number 3, pp. 557-629 goes into the question at much greater length.

Page 45 (cite to a book or article):

Coase, R.H., "The Problem of Social Cost," *JLE* 1960.

Page 46 (case citation):

Coase cases: *Fontainebleu Hotel Corp. v. Forty-Five Twenty-Five, Inc.*, 114 So. 2d 357 (1959) and *Sturges v Bridgman*, 11 Ch. D. 852 (1879).

Chapter 5

Page 47 (cite to a book or article):

Pigou, *Economics of Welfare*, 4th edn., p. 134.

Page 48 (case citation):

For an example of an incomplete privileges case, see *Spur Industries, Inc. v. Del E. Webb* Development Co., Supreme Court of Arizona, In Banc (1972) 108 Ariz. 178, 494 P.2d 700.

Page 53 (cite to a book or article):

"Ordinarily a person seeking to recover damages for the wrongful act of another must do that which a reasonable man would do under the circumstances to limit the amount of the damages." *Chesapeake & Ohio Railway Company v. Kelley*. 241 U.S. 485. 36 S.Ct. 630 . (June 5, 1916).

See also:

Wicker v. Hoppock, 6 Wall. 94, 99, 18 L. ed. 752 , 753; *The Baltimore*, 8 Wall. 377 , 387, 19 L. ed. 463 , 465; *United States v. Smith*, 94 U. S. 214 , 218, 24 L. ed. 115 ; *Warren v. Stoddart,* 105 U. S. 224 , 229, 26 L. ed. 1117 , 1120*; United States v. United States Fidelity & G. Co.* 236 U. S. 512 , 526, 59 L. ed. 696 , 703, 35 Sup. Ct. Rep. 298 .

Page 55 (additional comments):

For the purposes of this discussion, I am assuming that carbon dioxide emissions actually impose external costs. Whether that is true is unclear, both because there is considerable question about the accuracy of the climatological models that predict global warming and because, if global warming occurs, it will produce benefits as well as costs, and it is not clear whether the net effect is good or bad.

Page 57 (cite to a book or article):

A classic article on the distinction between property rules and liability rules is Calabresi, Guido & Melamed, Douglas, "Property Rules, Liability rules and Inalienability: One View of the Cathedral," 85 *Harvard Law Review* 1089 (1972).

Page 59 (additional comments):

Of course, the legal situation is more complicated than my simple description implies. If the risk I am imposing on you is sufficiently large and obvious, you may be able to get my hazardous activity enjoined. And:

"Where the injury is slight, the remedy for minor inconveniences lies in an action for damages rather than in one for an injunction. *Kubby v. Hammond*, 68 Ariz. 17 , 198 P.2d 134 (1948). Moreover, some courts have held, in the "balancing of conveniences" cases, that damages may be the sole remedy. See *Boomer v. Atlantic Cement Co*."

Cameron, Vice Chief Justice, *in Spur Industries, Inc. v. Del E. Webb Development Co*., Supreme Court of Arizona, In Banc (1972) 108 Ariz. 178, 494 P.2d 700. This is the case that I cited earlier in this chapter as an example of incomplete privilege.

Page 59 (additional comments):

My claim that you're a trespasser regardless of the reasonableness of your trespass is an oversimplification. If you swerve into someone's land to avoid a head-on collision, you have a defense to a trespass suit akin to the defense of necessity in a criminal case.

Page 60 (additional comments):

My statement that a fine gives the victim no incentive to prosecute is not quite correct. A victim might begin a prosecution, even though he knew that if the offender was convicted the fine would go to the state, in the hope of being paid by the defendant to drop charges--perhaps to have a convenient failure of memory--at some point before the end of the trial. In the discussion of English criminal law in the 18th century in Chapter 17, I suggest that as one explanation of private prosecution of crimimal offenses in that system. In addition, a victim might push for prosecution in order to develop a reputation that would deter other offenders from injuring that particular victim--deterrence as a private good. That possibility is also discussed in later chapters.

Page 61 (additional comments):

Consider a group of property owners whose land lies above a common pool of oil. If I drill a well on my land and pump, oil flows towards my well from the part of the pool under my neighbors' land, and similarly if they drill. So my extraction of oil imposes costs on them, and theirs on me. If each of us individually decides whether to drill and how much to pump, we will drill an inefficiently large number of wells and pump inefficiently fast. Not only does this increase extraction costs, lowering our net income, it

may well decrease the total amount of oil we get, since rapid extraction may waste some of the available pressure.

One very common solution to this problem is unitization. Under unitization, which is authorized by the laws of many although not all states, some supermajority of the landlowners above a pool, say three fourths, can unitize the pool, turning it into a common resource jointly owned and controlled by all of the landowners. Control is then by voting, with the landowners sharing in the revenue--giving all of them an incentive to maximize the total profit from the field.

For a news story on the subject, see: Texas Oilmen Consider Unitization. Scott Scholten, September 27, 1998. (Webbed)

Chapter 6

Page 63 (additional comments):

Insurance companies receive premiums for a policy before, often long before, they have to pay out the corresponding claims. A dollar of premium received today can be invested, yielding substantially more than a dollar by the time it must be paid out as claims. Thus an insurance company can pay out more dollars in claims than it takes in in premiums, and still make a profit--because the interest they receive more than makes up the difference.

While interest income is important to people running insurance companies, it is an irrelevant distraction for our purpose, which is to analyze the economics of the allocation of risk, so I have ignored it in this chapter. Readers who find this disturbing are free to assume either that the real interest rate is zero, so that a dollar today exchanges for a dollar next year, or that all numbers represent present values calculated to the same date. For more information on how present value calculations can be used to deal with this sort of complication, see chapter 12 of my webbed *Price Theory* .

Page 64 (cite to webbed material):

The issue of choice under uncertainty, including risk aversion, is discussed at greater length in Chapter 13 of my (webbed) *Price Theory* .

Page 66 (additional comments):

The term "moral hazard" is misleading to a modern reader, since it suggests that the problem has something to do with morality. It makes more sense if you read "moral" in the now nearly obsolete sense of "having to do with the mind," as when Napoleon asserted that, in war, the moral is to the physical as three is to one. Moral hazard is a hazard that arises not from external facts of the world but from internal facts of the actor--in this case, his rational behavior in a situation where he does not bear all of the resulting costs.

moral: 7. of, pertaining to, or acting on the mind, feelings, will, or character: moral support. The Random House Dictionary of the English Language, 2nd edn unabridged.

The dictionary's definition of "moral hazard," a little farther down the page, suggests that whoever wrote it was misled in precisely the fashion described.

Page 70 (cite to a book or article):

Akerlof, George (1970), 'The Market for "Lemons": Quality Uncertainty and the Market Mechanism', *84 Quarterly Journal of Economics*, 488-500.

Page 73 (case cite):

Love v. Elliott, 350 So. 2d 93 (Fla. App. 1977) is a case where Russell fraudulently got Mrs. Elliott, who was illiterate, to sign by her mark a deed conveying a much larger mineral interest in her property than she had agreed to sell. Russell then recorded his deed and sold his interest. The buyer was held to have good title, the court holding that a deed procured by fraud, unlike a forged deed, could be used to pass title to a bona fide purchaser.

On the other hand, *Cumberland Capital Corp. v. Robinette*, 331 So. 2d 709 (Ala. App. 1976) held that a signature procured by deceiving the grantor about what he was signing counted as a forgery. *Harding v. Ja Laur Corp*., 20 Md. App. 209 , 315 A. 2d 132 (1974) gives a similar result for a slightly different fraud.

Page 73 (case citation):

"The general rule has been stated that in the absence of a lease provision to the contrary, a tenant is not relieved from the obligation to pay rent despite the total destruction of the leased premises. *Magaw v. Lambert*, 3 Pa. 444 (1846); *Hoy v. Holt*, 91 Pa. 88(1879). Manderino, J. in *Albert M. Greenfield & Co. V. Kolea*, Supreme Court of Pennsylvania, 1976, 475 Pa. 351 , 380 A.2d 758 .

The judge goes on to argue that "The presumption established in *Magaw* and *Hoy*, supra, no longer has relevance to today's landlord-tenant relationships," and thus that the old common law rule should be abandoned.

See also *Crow Lumber & Bldg. Materials Co. v. Washington County Library Bd*., 428 S.W.2d 759 (Mo. App. 1968), which discusses the common law rule, its exceptions, and legislative abrogation of the rule in some states.

Page 73 (additional comments):

One reader suggests that a possible solution to the genetic testing problem would be for parents to buy insurance for their children before they are conceived, hence before their particular genotype exists to be tested. This is still not an entirely satisfactory solution, both because there is still genetic information available from the parents and because the

parents have less information (genetics aside) relevant to how much insurance to buy than the child will thirty years later.

Chapter 7

Page 78 (additional comments):

Strictly speaking, one ought to include the effect of risk aversion in calculating the amount of a punishment as well as its cost. If an actor is risk averse, one chance in a thousand of a hundred thousand dollar fine is for him a larger punishment than a certainty of a hundred dollar fine, so has a larger deterrent effect. I have ignored such complications in this chapter.

In order to make the analysis rigorous, we can define two punishment lotteries--combinations of punishment and probability--as equivalent if the actor is indifferent between them. So if the actor is risk neutral, one chance in a thousand of a hundred thousand dollar fine is equivalent to a certain punishment of a hundred dollars. If he is risk averse, it is equivalent to something more than a hundred dollars, if risk preferring, to something less.

How does this fit into the informal discussion of risk aversion as a form of punishment cost provided in the chapter? Suppose drivers are risk averse, regarding one chance in a thousand of a hundred thousand dollar fine as equivalent to a certain fine of two hundred dollars. When we use an ex post punishment which results in one chance of a thousand of a hundred thousand dollar punishment, actors are on average paying the equivalent of two hundred dollars each--that is the certain payment that is equivalent to the lottery they are facing--but the legal system is receiving only a hundred dollars each. The difference should be included in the cost of punishment.

Page 80 (case citation):

At common law, compliance with federal or state regulations does not absolve a firm from liability, although it may provide a jury with evidence that the firm was not negligent. In some areas, however, specific legislation has provided, or at least is interpreted by some courts as providing, a regulatory compliance defense.

Restatement (Third) Of Torts adopts the common law approach rejecting per se regulatory compliance defense); see also:

Plummer v. Lederle Labs., *819 F.2d 349, 356 (2d Cir. 1987) (concluding that compliance with federal consumer notification regulations precludes application of strict liability but may be used to establish negligence);*

Silkwood v. Kerr-McGee Corp.,*769 F.2d 1451, 1458 (10th Cir. 1985) (upholding a punitive damages award despite defendant's compliance with federal nuclear safety regulations);*

Toner v. Lederle Labs.,*732 P.2d 297, 311 n.12 (Idaho 1987) (arguing that FDA certification should constitute non-negligence per se);*

Gonzales v. Surgidev Corp., *899 P.2d 576, 590-91 (N.M. 1995) (stating that compliance with regulations will not preclude award of punitive damages);*

On the other hand, Grundberg v. Upjohn Co.*, 813 P.2d 89 (Utah 1991) gives judicial deference to regulatory compliance;*

Stone Man, Inc. v. Green, *435 S.E.2d 205 , 206 (Ga. 1993) holds that punitive damages generally are not available when defendant has complied with applicable regulations governing conduct at issue; and*

McDaniel v. McNeil Lab. Inc., *241 N.W.2d 822 , 828 (Neb. 1976) rejects a strict liability theory in a case where defendant adhered to FDA regulations.*

(references taken from Kimberly A. Pace, "Recalibrating The Scales Of Justice Through National Punitive Damage Reform," *American University Law Review,* June, 1997.)

The current status of the regulatory compliance defense for pharmaceuticals and medical devices is discussed by W. Kip Viscuzi, in the context of an argument for reform, in Chapter 4 of "Advancing Medical Innovation: Health, Safety, and the Role of Government in the 21st Century."

The status of the regulatory compliance defense in the context of airbags is discussed in:

"Notes: The Deployment Of Car Manufacturers Into A Sea Of Product Liability? Recharacterizing Preemption As A Federal Regulatory Compliance Defense In Airbag Litigation," 75 *Wash. U. L.Q.* 1677

Page 81 (cite to a book or article):

Ronald Coase, "The Federal Communications Commission," 2 *J. L. & Econ*. 1, 14 (1959)

Page 81 (cite to webbed material):

The long version of my analysis of the voodoo killer problem is:

"Impossibility, Subjective Probability, and Punishment for Attempts," *Journal of Legal Studies* XX, (January 1991).

Page 83 (case citation):

California case of *People v. Reed* 53 Cal. App. 4th 389 , 61 Cal.Rptr. 2d 658 , where a Court of Appeals said that when, "a person commits an act based on a mistake of fact, his guilt or innocence is determined as if the facts were as he perceived them." See also Model Penal Code (MPC) § 5.01 states in relevant part that, "[a] person is guilty of an attempt to commit a crime if, acting with the kind of culpability otherwise required for commission of the crime, he . . . purposely engages in conduct which would constitute the crime if the attendant circumstances were as he believes them to be."

[Contributed by one of my students]

Chapter 8

Page 85 (cite to a book or article):

John Von Neumann and Oskar Morgenstern, *The Theory of Games and Economic Behavior*.

Page 85 (cite to webbed material):

There is a lengthier discussion of game theory in Chapter 11 of my webbed *Price Theory*, including a more detailed explanation of solution concepts. For another perspective on game theory, from a legal scholar more optimistic about its usefulness than I am, see Randal C. Picker, *An Introduction to Game Theory and the Law* (June 1994), webbed in pdf format.

Page 88 (cite to a book or article):

Hermann Kahn, *On Thermonuclear War* , pp. 145-153, (1960).

Page 88 (additional comments):

In the discussion of Doomsday machines in the book I take the conventional view that all out thermonuclear war would have destroyed both sides. Kahn argued (in On Thermonuclear War) that that view substantially overestimated the destructiveness of modern weapons. If he was right, nuclear retaliation might have made sense as a way of damaging the Soviet Union and so preventing an invasion of an injured but not destroyed U.S., making it in our interest ex post as well as ex ante.

Page 88 (additional comments):

The plot of "Doctor Strangelove" appears to have been stolen from the novel Red Alert; I believe there was some litigation over the matter. The novel's version is a better story; the airforce officer responsible for the attack is a sympathetic character, taking a difficult choice for carefully considered reasons--of course, he doesn't know about the doomsday machine--and willing to pay with his own life by killing himself after ordering the attack in order to make sure he cannot be forced to recall the planes.

Page 93 (cite to a book or article):

There is a lengthy webbed discussion of the hawk/dove game, complete with simulations, by Kenneth N. Prestwich, a faculty member in the biology department of the College of the Holy Cross, Worcester, MA. For printed discussions, see:

Maynard Smith, J. 1982. *Evolution and the Theory of Games*. Cambridge Univ. Press.

Maynard Smith, J. and G. R. Price. 1973. *The logic of animal conflict*. Nature 246: 16-18.

Page 94 (case cite):

The ground for the denial of injunction, notwithstanding the finding both that there is a nuisance and that plaintiffs have been damaged substantially, is the large disparity in economic consequences of the nuisance and of the injunction. This theory cannot, however, be sustained without overruling a doctrine which has been consistently reaffirmed in several leading cases in this court and which has never been disavowed here, namely that were a nuisance has been found and where there has been any substantial damage shown by the party complaining an injunction will be granted.

...

On the other hand, to grant the injunction unless defendant pays plaintiffs such permanent damages as may be fixed by the court seems to do justice between the contending parties. ..." (Bergan, J. in *Boomer v. Atlantic Cement Co*., Court of Appeals of New York (1970) 26 N.Y. 2d 219, 309 N.Y.S.2d 312, 257 N.E.2d 870.)

For a case where the court granted an injunction even though the cost of preventing the injury was enormously greater than the amount of the injury, *see Whalen v. Union Bag & Paper Co.,* 208 N.Y. 1, 101 N.E. 805.

Kurtz and Hovenkamp summarize the legal history in terms of the choice between a property rule and a liability rule in this context:

"By reasoning that the right to injure the land of neighbors operates as a servitude upon the neighbors' land, and that the power to take a servitude belongs only to the government, courts from the eighteenth century to the Civil War generally decided that an injunction rather than damages was the only appropriate remedy, regardless of the social utility of the defendant's conduct. In the 1860's, however, several American courts began to deviate from the rule, largely in order to accommodate growing American industry. Under the literal requirements of property rule virtually any industrial activity that caused measurable injury could be enjoined. See, e.g.,,*American Smelting & Refining Co. v. Godfrey* 158 F. 225 (98th Cir.), cert. denied, 207 U.S. 597 (1907),

which recognized an exception to the injunction rule only for trivial injuries.

A liability rule, on the other hand, permits the defendant's activity but requires the defendant to compensate the plaintiff. See, e.g., Richard's Appeal, 57 Pa. 105 (1868), in which the Pennsylvania Supreme Court refused an injunction against the defendant's operation of its air-polluting iron works furnaces, but suggested that an action for damages would lie. ... Today ... many courts hold that the ordinary remedy in cases involving a continuing nuisance is "permanent" damages, provided that the activity is socially valuable and cannot reasonably be performed in a less harmful way." (Kurtz and Hovenkamp, pp. 769-70).

Current doctrine holds:

Second Restatement: Section 826

An intentional invasion of another's interest in the use and enjoyment of land is unreasonable if

(a) the gravity of the harm outweighs the utility of the actor's conduct, or

(b) the harm caused by the conduct is serious and the financial burden of compensating for this and similar harm to others would not make the continuation of the conduct not feasible.

"The present version of 826, unlike its counterpart in the First Restatement, recognizes that liability for damages caused by a nuisance may exist regardless of whether the utility of the offending activity exceeds the gravity of the harm it has created. This fundamental proposition now permeates the entire Second Restatement."

(Johnson, Salsich, ... *Property Law: Cases Materials and Problems*)

Chapter 9

Page 96 (additional comments):

At common law the wife and children could not sue at all since the cause of action died with the plaintiff--as it still does in the case of defamation. It was legislation in mid-nineteenth century England ("Lord Campbell's Act" 9&10 Vict., c. 93) and America that first entitled survivors to sue for the pecuniary loss to them.

Page 96 (cite to webbed material):

The long version of this chapter is "What is Fair Compensation for Death or Injury?" *International Review of Law and Economics*, 2, (1982), pp. 81-93.

Page 97 (cite to a book or article):

For evidence on the value people put on their own lives, see:

W. Kip Viscusi, "The Value of Life: Has Voodoo Economics Come to the Courts?" 3 *J. Forensic Econ*. 1, 4 (1990).

____*Reforming Products Liability*, Harvard University Press, Cambridge 1991.

____*Risk by Choice: Regulating Health and Safety in the Workplace*, ch. 6 (1983).

R. Thaler & S. Rosen, "The Value of Saving a Life: Evidence from the Labor Market," in *Household Production and Consumption* 265 (Terleckyj ed. 1975).

In this chapter I discuss the value of life as measured by the value that individuals place on their own lives. An interesting and related issue is the price of life implied by the observed relationship between income and life expectancy.

On average, richer people live longer for a wide variety of reasons. Not only does additional income result, on average, in better medical care and nutrition, it also

lengthens lives in less obvious ways. Better maintained cars are less likely to have accidents. Well off people are less likely to find themselves having to go out in bad weather, or work long hours when they are tired, or take chances with food that probably isn't spoiled.

One implication is that policies which cost money also cost lives. Suppose that one result of increasingly stringent drug testing to avoid unexpected side effects is to increase the cost of drug development by (say) ten billion dollars a year. That is a real cost--resources are being spent on testing that would otherwise have been spent on other things that people value. The result is to make people on average poorer--hence, on average, likely to die earlier.

A variety of studies have attempted to estimate the relation between income and life expectancy--to determine how much of an increase in real income it takes, statistically speaking, to save one life. Results vary, with a range from about 1.8 to 12.4 million dollars. Suppose the correct figure is five million dollars per life. In that case, the hypothetical drug program has the indirect effect of increasing mortality by 200 lives a year. If the number of lives that the program saves by eliminating drugs with serious side effects is less than that, then, on average, making drugs safer makes people less safe.

For a much more extensive discussion of this issue, including cites to the empirical literature, see Health-Health Tradeoffs, a webbed working paper by Cass Sunstein.

Page 100 (case citation):

Hunt v. K-Mart Corp. 981 P.2d 275. A products liability case was filed against K-Mart after Plaintiff fell from a defective office chair. At the trial, Plaintiff presented evidence from a psychologist and an economist who valued her damages from ìloss of enjoyment of life. These experts calculated Huntís hedonic damages by assessing a percentage of loss suffered by her in each area of her life on a "loss of pleasure of life scale" and then inserting those percentages into a formula which translated the losses into actual dollar amounts. According to the expert testimony, the monetary value of Norma's loss of enjoyment of life was $228,526.The Supreme Court of Montana upheld the introduction of this evidence. June 3, 1999.

For academic discussions of hedonic damages see:

Andrew Jay McClurg, “It's a Wonderful Life: The Case for Hedonic Damages in Wrongful Death Cases,” 66 *Notre Dame L. Rev.* 57 (1990).

Paul H. Rubin, "The Pitfalls of Hedonic Value Use,” *Nat'l L.J.*, January 16, 1989, at 15.

Ted. R. Miller, “Willingness to Pay Comes of Age: Will the System Survive?” 83 *Nw.U.L.Rev.* 876 (1989).

Page 100 (additional comments):

While our legal system does not make tort claims freely transferable, it does permit the effective transfer in some circumstances. Thus many tort claims are transferable to insurance companies through the doctrine of subrogation. You might have a disability and medical policy that provided that in the event of an accident the insurance company would pay you off and be subrogated to your tort rights, that is, receive by assignment the right to sue in your stead (and in your name, with you required by the policy to cooperate with the insurance company).

Other special cases include a waiver, by which you sell the claim to the potential tortfeasor, and a contingency fee arrangement, under which your attorney accepts the right to collect part of any damages awarded as his fee.

A contingency fee is not a complete transfer of your rights as a tort victim. Some of the money still goes to you--you don't have the option of transferring the whole claim in exchange for a fixed payment. This would count as champerty under current law--a term that, at an earlier date, would have covered contingency fees as well. And you still retain other rights with regard to the case--your attorney does not have a blank check to make all decisions as if he were the plaintiff.

Interm**ezzo**

Page 103 (additional comments):

While economic analysis of law in its present form is a recent development, there were precursors, including Adam Smith (...), Beccaria, and Bentham.

An interesting early work of Bentham's on the law, *TRUTH versus ASHHURST; OR, Contrasted With what it is said to be*, written in December 1792. , is webbed, as are:

Cesare Beccaria: *Essay on Crimes and Punishments*

Adam Smith, *The Wealth of Nations*, Book 5, chapter 1, part 2 (the source of the passage quoted in Chapter 15, about the rise of law and government).

Page 104 (case cite):

Turner et al. v. Big Lake Oil Co. et al., Supreme Court of Texas.(July 15, 1936) 128 Tex. 155, 96 S.W.2d 221. Appealed as 62 S.W.2d 491 (judgement affirmed).

Page 105 (case cite):

Bird v Holbrook, 4 Bing. 628, 130 Eng. Rep. 911 (C.P. 1828).

Palsgraf v Long Island R. Co.,248 N.Y. 339, 162 N.E. 99 (1928)

Page 105 (additional comments):

The latter example is inspired by Posner's discussion of the case *in Cardozo: A Study in Reputation*, pp. 33-48. Interested readers may also want to check "Palsgraf Kin Tell Human Side of Famed Case," *Harvard Law Record*, April 14, 1978.

Page 110 (additional comments):

Whether lease is contract or property has legal consequences, since the rules are different. See *Sommer v. Kridel*, Supreme Court of New Jersey, 1977 74 N.J. 446, 378 A.2d 767 . "The majority rule is based on principles of property law which equate a lease with a transfer of a property interest in the owner's estate." (rather than a contract, and hence does not require mitigation). "Yet the distinction between a lease for ordinary residential purposes and an ordinary contract can no longer be considered viable." (Pashman, J. in *Sommers v. Kridell*, overruling *Joyce v. Baumann*, 113 N.J.L. 438, 174 A. 693 (E.&A. 1934).)

"Is a lease a conveyance or a contract? Actually, of course, it is both. A lease transfers a possessory interest in land, so it is a conveyance that creates property rights. But it is also the case that leases usually contain a number of promises (or covenants, which originally referred to promises under seal) --such as a promise by the tenant to pay rent ... so the lease is a contract, too, thus creating contract rights.

...

... courts today commonly rely, explicitly, on contract principles to reshape the law of leases with respect to such questions as the following: (1) Are the covenants in leases "mutually dependent," such that (as in contract doctrine) a material breach by one party excuses further performance by the other party, even if the lease does not so provide? ... (2) If the leased premises are destroyed, is the tenant still liable for rent ...? (3) If the tenant wrongfully abandons the leased premises, must the landlord take steps to mitigate (reduce the damages, say by searching for a suitable new tenant? (4) Is a warranty of qualtiy --that the leased premises are habitable or fit for their purpose--to be implied in leases? (Kukeminier and Krier, Property, 3d edition, pp. 438-9)

The importance of (1) above is that if the lease is treated as property under traditional common law, then a failure by the landlord to live up to his side of the agreement might give the tenant grounds for claiming damages but does not let the tenant out of his obligations.

Chapter 10

Page 113 (case cite):

Coase discusses this issue in the context of the conflict between a physician and a candy maker in 19th c. England: *Sturges v. Bridgman* [1879] 11 Ch.D. 852 . For a modern case, see:

Estancias Dallas Corp. v. Schultz, Court of Civil Appeals of Texas, 1973 500 S.W. 2d 217. Injunction for noisy air conditioning equipment on property next to plaintiff's residence.

"If the court finds that the injury to the complainant is slight in comparison to the injury caused the defendant and the public by enjoining the nuisance, relief will ordinarily be refused. ... The necessity of others may compel the injured party to seek relief by way of an action at law for damages rather than by a suit in equity to abate the nuisance. ..."

(Stephenson, J. quoting from 31 Tex. Jur. §35 Nuisances in *Estancias Dallas*.)

Page 113 (additional comments):

Pennsylvania's support estate featured in at least two U.S. Supreme Court cases: *Pennsylvania Coal Co. v. Mahon*, 260 U.S. 393, 43 S. Ct. 158, 67 L.Ed. 322 (1922) and *Keystone Bituminous Coal Association v. DeBenedictis* 480 U.S. 470 (1987). Both ruled on attempts by the Pennsylvania legislature to transfer the support rights that the coal companies had bought and paid for to the owners of the surface rights, without compensation. The earlier case found that doing so violated the takings clause of the Fifth Amendment to the U.S. Constitution ("nor shall private property be taken for public use, without just compensation.") The later case found that it did not.

(The quotes below are from the opinion in the second case; I have reordered them somewhat in order to separate the discussion of the two cases)

"In *Pennsylvania Coal Co. v. Mahon*, 260 U.S. 393, 43 S. Ct. 158, 67 L.Ed. 322 (1922), the Court reviewed the constitutionality of a Pennsylvania statute that admittedly destroyed "previously existing rights of property and contract." Writing for the Court, Justice Holmes explained: "Government hardly could go on if to some extent values incident to property could not be diminished without paying for every such change in the general law. As long recognized, some values are enjoyed under an implied limitation and must yield to the police power. But obviously the implied limitation must have its limits, or the contract and due process clauses are gone. One fact for consideration in determining such limits is the extent of the diminution. When it reaches a certain magnitude, in most if not in all cases there must be an exercise of eminent domain and compensation to sustain the act. So the question depends upon the particular facts." Ibid. In that case the "particular facts" led the Court to hold that the Pennsylvania Legislature had gone beyond its constitutional powers when it enacted a statute prohibiting the mining of anthracite coal in a manner that would cause the subsidence of land on which certain structures were located.

...

In *Pennsylvania Coal*, the Pennsylvania Coal Company had served notice on Mr. and Mrs. Mahon that the company's mining operations beneath their premises would soon reach a point that would cause subsidence to the surface. The Mahons filed a bill in equity seeking to enjoin the coal company from removing any coal that would cause "the caving in, collapse or subsidence" of their dwelling. The bill acknowledged that the Mahons owned only "the surface or right of soil" in the lot, and that the coal company had reserved the right to remove the coal without any liability to the owner of the surface estate. Nonetheless, the Mahons asserted that Pennsylvania's then recently enacted Kohler Act of 1921, P.L. 1198, Pa.Stat.Ann., Tit. 52, ' 661 et seq. (Purdon 1966), which

prohibited mining that caused subsidence under certain structures, entitled them to an injunction.

* * *

...In its argument in this Court, the company contended that the Kohler Act was not a bona fide exercise of the police power, but in reality was nothing more than " 'robbery under the forms of law' " because its purpose was "not to protect the lives or safety of the public generally but merely to augment the property rights of a favored few."

Over Justice Brandeis' dissent, this Court accepted the company's argument. In his opinion for the Court, Justice Holmes * * * rested on two propositions, both critical to the Court's decision. First, because it served only private interests, not health or safety, the Kohler Act could not be "sustained as an exercise of the police power." Second, the statute made it "commercially impracticable" to mine "certain coal" in the areas affected by the Kohler Act."

Stephens, J., in *Keystone Bituminous Coal Association v. DeBenedictis* 480 U.S. 470 (1987), summing up the decision of a previous Supreme Court in a similar case--while arguing that the facts were entirely different and the current majority could thus reach the opposite result without violating precedent.

Justice Stephens summed up the case he was actually deciding:

"Pennsylvania's Subsidence Act authorizes the Pennsylvania Department of Environmental Resources (DER) to implement and enforce a comprehensive program to prevent or minimize subsidence and to regulate its consequences. Section 4 of the Subsidence Act, Pa.Stat.Ann., Tit. 52, ' 1406.4 (*Purdon* Supp.1986), prohibits mining that causes subsidence damage to three categories of structures that were in place on April 17, 1966: public buildings and noncommercial buildings generally used by the public; dwellings used for human habitation; and cemeteries. Since 1966 the DER has applied a formula that generally requires 50% of the coal beneath structures protected by ' 4 to be kept in place as a means of providing surface support. * * *

...

In 1982, petitioners filed a civil rights action in the United States District Court for the Western District of Pennsylvania seeking to enjoin officials of the DER from enforcing the Subsidence Act and its implementing regulations. Petitioners are an association of coal mine operators, and four corporations that are engaged, either directly or through affiliates, in underground mining of bituminous coal in western Pennsylvania. * * * The complaint alleges that Pennsylvania recognizes three separate estates in land: The mineral estate; the surface estate; and the "support estate." Beginning well over 100 years ago, landowners began severing title to underground coal and the right of surface support while retaining or conveying away ownership of the surface estate. It is stipulated that approximately 90% of the coal that is or will be mined by petitioners in western Pennsylvania was severed from the surface in the period between 1890 and 1920. When acquiring or retaining the mineral estate, petitioners or their predecessors typically acquired or retained certain additional rights that would enable them to extract and remove the coal. Thus, they acquired the right to deposit wastes, to provide for drainage and ventilation, and to erect facilities such as tipples, roads, or railroads, on the surface.

Additionally, they typically acquired a waiver of any claims for damages that might result from the removal of the coal. In the portions of the complaint that are relevant to us, petitioners alleged that both ' 4 of the Subsidence Act, as implemented by the 50% rule, and ' 6 of the Subsidence Act, constitute a taking of their private property without compensation in violation of the Fifth and Fourteenth Amendments.

...

The holdings and assumptions of the Court in *Pennsylvania Coal* provide obvious and necessary reasons for distinguishing *Pennsylvania Coal* from the case before us today. The two factors that the Court considered relevant, have become integral parts of our takings analysis. We have held that land use regulation can effect a taking if it "does not substantially advance legitimate state interests, ... or denies an owner economically viable use of his land." *Agins v. Tiburon*, 447 U.S. 255 , 260, 100 S.Ct. 2138 , 2141, 65 L.Ed.2d 106 (1980) (citations omitted); see *also Penn Central Transportation Co. v. New York City*, 438 U.S. 104 , 98 S.Ct. 2646 , 2659, 57 L.Ed.2d 631 (1978). Application of these tests to petitioners' challenge demonstrates that they have not satisfied their burden of showing that the Subsidence Act constitutes a taking. First, unlike the Kohler Act, the character of the governmental action involved here leans heavily against finding a taking; the Commonwealth of Pennsylvania has acted to arrest what it perceives to be a significant threat to the common welfare. Second, there is no record in this case to support a finding, similar to the one the Court made in Pennsylvania Coal, that the Subsidence Act makes it impossible for petitioners to profitably engage in their business, or that there has been undue interference with their investment-backed expectations."

Arguably, the result in the first case depended on the fact that Pennsylvania, unlike most other states, recognized the support estate as a separate estate in land. If it had recognized only a mineral estate and a surface estate, the court might have found that the statute reduced but did not eliminate the mineral estate's value, hence was not a complete taking.

For a discussion of the underlying legal question--when taking part of a bundle of rights counts as sufficiently complete to implicate the takings clause of the Constitution--see Inverse Condemnation: The Search For The Relevant Parcel By Kevin J. Coakley.

For a discussion of Pennsylvania's recognition of three separate estates in land (surface, mineral, and support), *Captline v. County of Allegheny*, 662 A.2d 691 (Pa. Cmwlth. 1995).

For a much more extensive discussion of the issue of when a government action that reduces the value of someone's property is or ought to be considered a taking, and thus require compensation under the takings clause of the Constitution, see Richard Epstein's work, especially his book *Takings*.

Page 114 (case citation):

For right to lateral support, see *Spall v Janota*, 406 N.E. 2d 378 (Ind. App.1980). Note that Kurtz and Hovenkamp (*Cases and Materials on American Property Law*, (West Publishing: Saint Paul 1987, p. 792) write "However, generally the common law also provided that the defendant's activity must be such that the plaintiff's land would have

subsided even in its undeveloped state. An owner of developed land could recover, but he would have to show that the weight of his own buildings or other artificial structures were not a substantial contributing factor to the subsidence. See *Noone v. Price*, 298 S.E. 2d 218 (W.Va.1982); *Simons v. Tri-State Construction Co*., 33 Wn.App. 315, 655 P.2d 703 (1982), *Warfel v. Vondersmith*, 376 Pa. 1 , 101 A.2d 736 (1954)."

This doctrine demonstrates awareness by common law courts of the joint causation problem, although it does not deal with the case where the subsidence would have occurred even without the construction but does significant damage only because there are structures on the subsiding land to be damaged. One might argue, however, that the argument given earlier for the doctrine of coming to the nuisance applies here as well, since in order for the buildings to be damaged they must have been built before the land subsided.

For subjacent support, *see Gabrielson v. Central Serv. Co*., 232 Iowa 483 , 5 N.W.2d 834 (1942). A problem arises when one landowner pumps water or oil from under his land, with the result that his neighbor's land subsides. English common law normally held him not to be liable, as did the First (but not the second) Restatement of Torts. According to Kurtz and Hovenkamp, "Most American courts ignore both Restatements and adopt a "reasonable use" rule that requries the plaintiff to show either that the defendant took the water for no good purpose or did so maliciously, or else that the defendant was negligent. See *Finley v. Teeter Stoen*, Inc., 251 Md. 428 , 248 A.2d 106 (1968)." (pp. 792-3).

Page 116 (case cite):

The issue of property rights to an animal you are in hot pursuit of appears in the case of *Peirson v Post* (1805). Consider also *Ghen v. Rich* (1881) page 27, which highlights the idea that the common law sometimes allows other secondary participants to share in a kill. In *Ghen*, a whale hunter killed a whale, which washed up on the beach. The defendant found the whale on the beach and auctioned it off. Here the court found for the whale hunter because the local custom was that the killer has a property interest in the whale while the discover of the whale was only entitled to slight compensation.

Page 116 (cite to a book or article):

Bailey, Martin "The Approximate Optimality of Aboriginal Property Rights," XXXV *JLE* 183 (1992).

Page 116 (additional comments):

Time share condominiums provide a modern version of the old problem of joint property--how to make sure that each owner takes proper account of the effect of his actions on the value of the other owners' shares. See:

Model Real Estate Time-Share Act (1980, amended 1982)

Note: Timesharing and Realty Interests Under the Martin Act: Consumer or Investor Protection?, 17 *Fordham Urb. L.J.* 505 (1989).

Page 118 (case cite):

The verdict of the appeals court in the Stack Island case (*George T. HOUSTON, III and Ruth H. Jarvis Baker, Plaintiffs-Appellants, v. UNITED STATES GYPSUM COMPANY, a corporation, Defendant-Appellee*, No. 76-2988, UNITED STATES COURT OF APPEALS FOR THE FIFTH CIRCUIT, 569 F.2d 880; 1978 U.S. App.) is available online. Their decision was that U.S. Gypsum (which owned the land on the river bank) had a legitimate claim, subject to the possibility that Houston might own the land by adverse selection, which they asked the District Court to decide.

Having looked at the case again (after Law's Order was out of my hands), the situation seems to be even more complicated than I thought. What I believe happened was:

1. U.S. Gypsum owned land on the east bank of the river, and owned any Islands west of that land and east of the state border, which was defined as the middle of the main channel of the Mississippi.

2. Stack Island, which belonged to Houston and Baker (presumably to their ancestors or the people they bought it from, since it was acquired almost a hundred years before their case) was entirely north of U.S. Gypsum's property.

3. Over a period of time, erosion and deposition put Stack Island entirely in the stretch of the river--south of the northern end of U.S. Gypsum's property and east of the river channel--which belonged to U.S. Gypsum. U.S. Gypsum's position is that, at that point, the island became entirely theirs.

4. Thereafter, the channel shifted, leaving Stack Island west of the channel (and state boundary), thus entirely out of U.S. Gypsum's part of the river.

5. But U.S. Gypsum's position, upheld by the courts, was that once it got ownership of the island, the island remained its property (presumably until it moved into some portion of the river that someone else had a claim on--at this point, as when it started, it was in a portion where nobody had a claim, I think).

6. That left the argument about adverse possession, which Houston and Baker won in the district court, on the grounds that they had treated the property as theirs for an extended period of time without complaint by U.S. Gypsum (more precisely, there was a brief exchange of letters between attorneys for the two sides in 1957, but U.S. gypsum then dropped the matter).

7. The court of appeals sent the case back for possible reconsideration (569 F.2d 880).

8. The district court affirmed in 652 F.2d 467 C.A.Miss., 1981, holding that Stack Island belonged to Houston and Baker on grounds of adverse possession.

Page 118116 (additional comments):

"When natural forces gradually shift a river and cause the adjacent land to recede or to advance by the build-up of new soil, there has been an accretion. With accretion, the owner of the adjacent land gains or loses land as the water boundary gradually shifts. If

there is a sudden change in the course of a river (as after a flood), the process is called avulsion, not accretion, and the boundaries do not change. See 3 American Law of Property § 15.27 (1952)"

(Dukeminier and Krier, *Property*, pp. 629-30, fn 11.)

Page 120 (additional comments):

For an entertaining semi-fictional account of the costs associated with meeting the requirements for homesteading in an unsuitable environment, see the Little House on the Prairie books.

Page 121 (cite to a book or article):

Terry Anderson and P.J. Hill, "Privatizing the Commons: An Improvement?" *Southern Economic Journal*, Vol. 50, No. 2 (October 1983),pp. 438-450.

Page 122 (cite to a book or article):

Douglas W. Allen, "Homesteading and Property Rights: Or 'How the West Was Really Won'," *JLE* 34:1-24. (1991).

Page 122 (cite to a book or article):

For an interesting, if lengthy, account of how public land was converted to private land in the U.S. over the past two hundred years, see *History of Public Land Law Development* by Paul Gates, with a chapter by Robert W. Swenson, Washington D.C., USGPO 1968.

Page 125 (case citation):

Passing on Easements

For an example of an easement implied by an existing use, see *Van Sandt v. Royster*, Supreme Court of Kansas (1938), 148 Kan. 495 . In this case, the court found that the defendant had an implied easement to use a lateral sewer system which ran across the plaintiff's land because the persons from whom the plaintiff acquired title were aware of the sewer and knew the sewer was for the benefit of the other homeowners in the development. The court found that the plaintiff did have notice of the easement because the lateral sewer was apparent from inspection of the property.

For an example of burdens running at law where there is constructive notice, see *Sanborn v. McLean*, Supreme Court of Michigan (1925), 233 Mich. 227 , 206 N.W. 496 , 60 A.L.R. 1212 . Defendant's deed contained no restrictions nor did the subdivision map. Defendant still could not open a commercial business on his plot. The original owner of the subdivision sold the first set of plots with restrictions against commercial development. Although other plots were later sold without the commercial development

restriction, the owners of these plots were held to the restriction because there was a implied negative easement at the time those lots were sold. The defendant had constructive notice of the negative easement because the recorded deeds to other lots in the subdivision contained the restriction.

For an example of equitable servitude, see *Tulk v. Moxhay* , Court of Chancery, England,1848, 2 Phillips 774, 41 Eng. Rep. 1143. This was the first case that found that covenants are enforceable as equitable servitudes against subsequent purchasers with notice.

It is worth noting that England did not have an effective system of public records of land titles until 1925. One result was that English judges were reluctant to expand the range of negative easements--rights by one property owner to have another property owner not do something. Negative easements are harder to discover by inspection.

What if the Same Property is Sold to Two Different People?

"The second paragraph of the assignment [filed in1971] states that the assignors intended to convey, and by this instrument conveyed to the assignee [Tours], "all interest of whatsoever nature in all working interests and overriding royalty interest in all Oil and Gas Leases in Coffey County, Kansas, owned by them whether or not the same are specifically enumerated above ...." The interest of Grace V. Owens in the Kufahl lease ... would be included under this general description.

On January 30, 1975, the same Grace V. Owens executed and delivered a second assignment of her working interest in the Kufahl lease to the defendant, J.R. Burris. Prior to the date of that assignment, Burris personally checked the records in the office of the register of deed and, following the date of the assignment to him, Burris secured an abstract of title to the real estate in question. Neither his personal inspection nor the abstract of title reflected the prior assignment to Tours.

...

Burris admits that the general description and language used in the second paragraph of Owens's assignment to tours was sufficient to effect a valid transfer ... as between the parties to that instrument. Burris contents, however, that the general language ... which failed to state with specificity the names of the lessor and lessee, the date of the lease, any legal description, and the recording data, was not sufficient to give constructive notice to a subsequent innocent purchaser for value without actual notice of the prior assignment. "

(Prager, J. in *Luthi v. Evans*, Supreme Court of Kansas, 1978 223 Kan. 622, 576 P.2d 1064.)

Burris had won in the district court, lost in the Court of Appeals, and was appealing to the state Supreme Court, which found that Owens' assignment would have been sufficient if Burris had had actual knowledge of the transfer, but was not sufficient to give him constructive knowledge, and so reversed the Court of Appeals and affirmed the judgement of the district court.

The earliest recording acts were what are now called "race statutes," meaning that, if two different people had purchased the same property, the first to record--the one who wins the race to the recording office--gets it. Notice statutes, under which the second purchaser lost, even if he recorded first, if he knew of the prior (unrecorded) purchase, developed later. While this seems just, it raises the obvious practical problem of proving what the second purchaser did or did not know. For a more extensive discussion, see Duckminier and Krier, *Property*, pp. 711-721, much of which deals *with Messersmith v. Smith*, Supreme Court of North Dakota, 1953, 60 N.W. 2d 276 .

Easements: Restrictions on Division and/or Transferability

Some sorts of easements, such as fishing and mining rights, are held by some courts to be indivisible. If A, the owner of a lake, sells B the right to fish in it, B may transfer part of that right to C only if B and C will thereafter exercise the right jointly.

One possible defense of this rule is that multiple independent ownership (either B or C may license other people to fish anywhere they like in the lake) will result in overuse, both from the standpoint of economic efficiency (for the usual reasons associated with overuse of a commons) and relative to what the owner of the property could reasonably expect when he granted the easement. For a long discussion, see *Miller V. Lutheran Conference & Camp Association*, Supreme Court of Pennsylvania, 1938, 331 Pa. 241, 200 A. 646, 130 A.L.R. 1245 . The earliest statement of the principle is *Mountjoy's Case*, Co. Litt. 164b, 165a, which held that the grantee of a right to dig for ore "must assign his whole interest to one, two, or more; but then, if there be two or more, they could make no division of it, but work together with one stock."

Other courts have held that recreational easements (for hunting, fishing, boating and camping) are not assignable, presumably on the ground that the grantor was agreeing to the level of use that was expected from a particular known grantee, not to whatever level of use any future assignee might choose. See "Note, The Easement in Gross Revisited: Transferability and Divisibility Since 1945," 39 *Vand. L. Rev*. 109 (1986).

Page 125 (additional comments):

UCC 2-403. Power to Transfer; Good Faith Purchase of Goods; "Entrusting".

(1) A purchaser of goods acquires all title which his transferor had or had power to transfer except that a purchaser of a limited interest acquires rights only to the extent of the interest purchased. A person with voidable title has power to transfer a good title to a good faith purchaser for value. When goods have been delivered under a transaction of purchase the purchaser has such power even though

(a) the transferor was deceived as to the identity of the purchaser, or

(b) the delivery was in exchange for a check which is later dishonored, or

(c) it was agreed that the transaction was to be a "cash sale", or

(d) the delivery was procured through fraud punishable as larcenous under the criminal law.

(2) Any entrusting of possession of goods to a merchant who deals in goods of that kind gives him power to transfer all rights of the entruster to a buyer in ordinary course of business.

(3) "Entrusting" includes any delivery and any acquiescence in retention of possession regardless of any condition expressed between the parties to the delivery or acquiescence and regardless of whether the procurement of the entrusting or the possessor's disposition of the goods have been such as to be larcenous under the criminal law.

(4) The rights of other purchasers of goods and of lien creditors are governed by the Articles on Secured Transactions (Article 9), Bulk Transfers (Article 6) and Documents of Title (Article 7).

Page 126 (case citation):

Eagle Enterprises, Inc. v. Gross, Court of Appeals of New York, 1976, 39 N.Y. 2d 505, 349 N.E.2d 816, 384 N.Y.S.2d 717.

The case reiterates that in order for a covenant to run with the land, it must be shown that: 1) the original grantor and grantee intended it to run with the land 2) privity of estate exists between the partly claiming the benefit of the covenant and the party upon whom the burden of the covenant is to be imposed and 3) the covenant is deemed to "touch and concern" the land. Here, the court found the water privileges did not touch and concern the land pointing out that the covenant did not substantially affect the ownership interest of the landowners because the landowners had other sources of water. The court also noted that affirmative covenants are disfavored in the law.

On the other side of spectrum from *Eagle*, there is *Neponsit Property Owners' Association, Inc. v. Emigrant Industrial Savings Bank*, Court of Appeals of New York,1938, 278 N.Y. 248, 15 N.E.2d 793. Here the court found that the covenant to pay an annual charge for the maintenance of common areas to the homeowners' association (which was included in the deed) was a covenant that met the "touch and concern" requirement because the landowners benefited from the covenant through enjoyment of an easement to utilize the public areas in the subdivision.

Chapter 11

Page 129 (case citation):

"The hard-fought litigation below resulted in four separate district court opinions (Keeton, U.S.D.J.), culminating in the district court's conclusion that the 1-2-3 menu tree contained copyrightable expression and that Borland had thus infringed Lotus's copyrights in Lotus 1-2-3.1 On March 9, 1995, we reversed, holding as a matter of first impression that the 1-2-3 menu command hierarchy was an uncopyrightable "method of operation" under 17 U.S.C. § 102(b). See 49 F.3d at 813-18. Subsequently, the Supreme Court granted Lotus's petition for certiorari but deadlocked on the merits, resulting in an

affirmance by an equally divided Court. See 516 U.S. 233 (1996). " (Judge Stahl in *Lotus v Borland*, United States Court of Appeals For the First Circuit No. 97-1399.)

The four district court opinions were:

Lotus Dev. Corp. v. Borland Int'l, Inc., 788 F. Supp. 78 (D. Mass. 1992) *("Borland I*");

Lotus Dev. Corp. v. Borland Int'l, Inc., 799 F. Supp. 203 (D. Mass. 1992) *("Borland II*");

Lotus Dev. Corp. v. Borland Int'l, Inc., 831 F. Supp. 202 (D. Mass. 1993) *("Borland III*");

Lotus Dev. Corp. v. Borland Int'l, Inc., 831 F. Supp. 223 (D. Mass. 1993) *("Borland IV*").

After which Borland requested attorney's fees, the request was rejected by the district court, that rejection was upheld by the 1st Circuit Court of appeals, and that decision was upheld by the Supreme Court.

Page 131 (case cite):

Rickard v Du Bon, 103 Fed. 868 (2d Cir. 1900). Tobacco flecking case. The patent was void for want of utility, "except to deceive."

Page 132 (case citation):

Brenner v. Manson 383 U.S. 519 (1966).

Page 132 (case citation):

Lowell v. Lewis, 15 F. Cas. 1018 (C.C.D. Mass. 1817). Story, Circuit Justice (charging jury):

"All that the law requires is, that the invention should not be frivolous or injurious to the well-being, good policy, or sound morals of society. The word "useful," therefore, is incorporated into the act in contradistinction to mischievous or immoral. For instance, a new invention to poison people, or to promote debauchery, or to facilitate private assaassination, is not a patentable invention. But if the invention steers wide of these objections, whether it be more or less useful is a circumstance very material to the interests of the patentee, but of no importance to the public. If it be not extensively useful, it will silently sink into contempt and disregard."

Page 133 (cite to a book or article):

Kitch, Edmund W., (1977), "The nature and function of the patent system." *J Law Econ* 20:265-290.

Kitch, Edmund W. (1980), 'Patents, Prospects and Economic Surplus: A Reply', 23 *Journal of Law and Economics* 205.

Page 135 (additional comments):

The issue of depleting the commons raised here is closely related to an old issue in political philosophy--the Lockean Proviso. Locke argued that private property in land originated when someone mixed his labor with the land--by clearing it, cultivating it, etc., thus getting ownership. He added that this was legitimate "at least where there is enough, and as good left in common for others." In the context of copyright, that proviso is more nearly satisfied that in almost any other.

John Locke, *Second Essay on Government*, Chapter V (26).

Page 137 (case cite):

In *White-Smith Music Publishing Co. v. Apollo Co.*, 209 U.S. 1 ,28 S.Ct. 319 , 52 L.Ed. 655 (1908), the Supreme Court held that a piano roll was not a "copy" of the musical composition recorded thereon and therefore, that the defendant, in making an unauthorized piano roll of plaintiff's musical composition, had not infringed plaintiff's "right to copy". After quoting the definition of copy set forth in *Boosey v. Whight*, the Supreme Court defined a copy of a musical composition as "a written or printed record of it in intelligible notation". 209 U.S. at 17, 28 S.Ct. at 1069. In reaching this result the Court stated:

"It may be true that in a broad sense a mechanical instrument which reproduces a tune copies it; but this is a strained and artificial meaning. When the combination of musical sounds is reproduced to the ear it is the original tune as conceived by the author which is heard. These musical tones are not a copy which appeals to the eye. In no sense can musical sounds which reach us through the sense of hearing be said to be copies as that term is generally understood, and as we believe it was intended to be understood in the statutes under consideration. 209 U.S. at 17, 28 S.Ct. at 323.Noting that the perforated rolls were parts of a machine which, when duly applied and properly operated in connection with the mechanism to which they were adopted, produced musical tones in harmonious combination, the Supreme Court concluded that they were not "copies"within the meaning of the copyright act then in existence. Congress in the 1909 Act implicitly adopted the *White-Smith* definition of "copy".

1 Nimmer on Copyrights 2.03(B), at 2-29 (1979).

"Thus, since the ROM is not in a form which one can see and read with the naked eye, it is not a copy within the meaning of the 1909 Act. In its object phase, the ROM, the computer program is a mechanical tool or a machine part but it is not a copy of the source program." *Data Cash Systems, Inc. v. JS&A Group, Inc*. 480 F. Supp. 1063 . Sept. 26, 1979, where a machine language program in the ROMs of a hand held chess playing computer was found unprotectable under copyright law, on the grounds that the (copied) ROM was not a copy in the relevant sense:

"Both at common law and under the 1909 Act, a "copy" must be in a form which others can see and read." (Judge Flaum, *Data Cash Systems*).

In *Apple Computer, Inc. v. Franklin computer Corp.*, 545 F. Supp. 812 (E.D. Pa. 1982), the court denied Apple's motion for a preliminary injunction against Franklin, which was producing and selling a computer that included Apple software in its ROMs. In *Apple Computer, Inc. v. Franklin computer Corp*., 714 F. 2d 1240(3d Cir. 1983), the appeals court reversed that result, arguing that the Apple software probably was copyrightable.

The current version of the copyright act is available online.

Page 138 (additional comments):

The Semiconductor Chip Protection Act of 1984 (The mask works act) protects masks, the stencils used in manufacturing semiconductor chips. The act gives a mask work owner "the exclusive rights to do and to authorize any of the following: (1) to reproduce the mask work by optical, electronic, or any other means ... .

Thus the Mask Works Act, like the plug mold statute that was the subject of Bonito Boats, Inc. V. Thunder Craft Boats, Inc. 489 U.S. 141 (1989), prohibits the use of a product to make copies of itself. It does not prohibit copying of the design of a chip, merely the exact layout.

Protection under the Digital Millennium Copyright Act, on the other hand (Title V, the "Vessel Hull Design Protection Act,"), looks more like a trial run for a design patent act:

"The owner of a design protected under this chapter has the exclusive right to—

"(1) make, have made, or import, for sale or for use in trade, any useful article embodying that design; and

"(2) sell or distribute for sale or for use in trade any useful article embodying that design.

"§ 1309. Infringement

"(a) ACTS OF INFRINGEMENT.—Except as provided in subsection (b), it shall be infringement of the exclusive rights in a design protected under this chapter for any person, without the consent of the owner of the design, within the United States and during the term of such protection, to—

"(1) make, have made, or import, for sale or for use in trade, any infringing article as defined in subsection (e); or

...

"(e) INFRINGING ARTICLE DEFINED.—As used in this section, an 'infringing article' is any article the design of which has been copied from a design protected under this chapter, without the consent of the owner of the protected design.

Page 139 (case cite):

There is one important case which violates this *rule–E.I du Pont deNemours & Co. v. Christopher*. 431 F.2d 1012 (5th Cir. 1970). In that case, a competitor obtained information by hiring a pilot to fly over a chemical plant under construction and

photograph it. The court held that this was a violation of du Pont's rights, even though the flight itself was lawful.

Page 140 (case cite):

"Finally, while state trade secret law cannot bar reverse engineering or independent discovery, protection will be accorded a trade secret holder against disclosure or unauthorized use gained by improper means, even if others might have discovered the trade secret by legitimate means." Restatement (Third) of Unfair Competition at § 39 comment *f.Reingold v. Swiftships, Inc*., 126 F.3d 645 (5th Cir. 1997).

A similar point appears in *Anacomp, Inc. v. Shell Knob Servs*., 93 Civ. 4003 (PKL), 1994 U.S. Dist. Lexis 223 (S.D.N.Y. 1994).

Two important cases on reverse engineering are:

Sega Enterprises Ltd. v. Accolade, Inc. 785 F. Supp. 1392 (N.D. Cal.), aff'd in part and rev'd in part, 977 F.2d 1510 (9th Cir., 1992).

Atari Games Corp. v. Nintendo of America, Inc., 18 U.S.P.Q.2d 1935 (N.D. Cal. 1991) (granting preliminary injunction, affirmed 975 F.2d 832 (Fed. Cir. 1992), after remand, 30 U.S.P.Q.2d (BNA) 1401 (N.D. Cal. 1993); 30 U.S.P.Q.2d (BNA) 1420 (N.D. Cal. 1993).

In both cases the plaintiff argues (unsuccessfully) that the defendant's reverse engineering is illegitimate because of violations of copyright and/or patent rights, fraud, and other wrongful acts. There is a brief discussion of the two cases webbed.

"One may use his competitor's secret process if he discovers the process by reverse engineering applied to the finished product; ..."

from *Dupont v Christopher* 431 F.2d 1012

For a discussion of, and attempt to justify, the distinction between aerial surveillance (*Christopher*) and reverse engineering, see Richard Posner, "The Right of Privacy," 12 Ga. L. Rev. 393, 410 (1978).

Page 140 (case citation):

Kewanee Oil Co. V. Bicron Corp., 416 U.S. 470 (1974) is the case that established the principle that state trade secret law was not entirely preempted by federal patent law. Two earlier cases, *Compco Corp. v. Day-Brite Lighting, Inc*., 376 U.S. 234 (1964); *Sears, Roebuck & Co v. Steiffel Co*., 376 U.S. 225 (1964), appeared to be moving in the direction of preemption.

Page 141 (additional comments):

This point is discussed at somewhat greater length in David Friedman, William Landes and Richard Posner, from "Some Economics of Trade Secret Law," *Journal of Economic Perspectives*, vol. 5, Number 1 (Winter 1991) pp. 61-72.

Page 141 (cite to webbed material):

The analysis in this section of the chapter is condensed from David Friedman, William Landes and Richard Posner, "Some Economics of Trade Secret Law," *Journal of Economic Perspectives*, vol. 5, Number 1 (Winter 1991) pp. 61-72.

Page 143 (case cite):

Vault Corp. v. Quaid Software Limited, 655 F. Supp. 750 (E.D. La. 1987) is an important case on copy protection of disks. Vault provided the software with which companies produced copy protected disks; Quaid produced the software with which people copied them. Vault failed in its attempt, under a variety of theories, to legally suppress Quaid's activities.

Page 144 (cite to webbed material):

This topic is discussed at some length in David Friedman, "In Defense of Private Orderings: Comments on Julie Cohen's 'Copyright and the Jurisprudence of Self-Help,'" *Berkeley Technology Law Journal*. Readers interested in technological protection of intellectual property may want to check out the web site of Intertrust, a company currently at the cutting edge of those technologies.

Chapter 12

Page 146 (cite to a book or article):

Lisa Bernstein, "Opting Out of the Legal System: Extralegal Contractual Relations in the Diamond Industry," 21 *Journal Of Legal Studies*, 1992, pp.115-157.

The description of the article given here seriously oversimplifies it, due to some combination of bad memory (mine) and the blurring effect of oral tradition--as I realized when I went back and read the article after it was too late to change the book. While the institutions that Bernstein observed originated at a time when the industry was dominated by orthodox Jews, by the time she observed them the industry had become substantially more diverse. Parties were kept out of the courts in part by religious constraints, in part by the desire to keep their dealings private, in part, perhaps, by the superiority of the private alternative. That alternative was controlled, in New York, by the New York Diamond Dealers' Club, under whose auspices the arbitration occurred. Similar arrangements existed, and exist, elsewhere in the world, with multiple private systems exchanging information.

Page 148 (case cite):

Weaver v. American Oil Co., 257 Ind. 458, 276 N.E.2d 144 (1971) is a case where a contract was found unenforceable in part on the basis of unequal bargaining power.

For a general discussion of the issue of Freedom of Contract, see Richard Craswell's (webbed) working paper on "Freedom of Contract."

Page 148 (cite to a book or article):

Ware, Stephen J., in "Default Rules from Mandatory Rules: Privatizing Law Through Arbitration," *Minnesota Law Review* Volume 83 (February 1999) no 3, pp. 703-754, argues that arbitration converts mandatory rules into default rules, thus makes it possible to privatize much of law. His central argument is that courts grant enough deference to the judgement of arbitrators, even when they produce a different result than a court trial would have been, to permit something close to complete freedom of contract via arbitration agreements.

Page 149 (additional comments):

Unequal Bargaining Power: Take Two

In the text, I dismiss the idea that contracts ought to be viewed with suspicion if the parties had unequal bargaining power, pointing out that even in the extreme case where the seller is a monopoly, it is still in his interest to take account of the interests of the buyer in designing a product or a contract. In this note, I approach the question from a different angle by sketching a situation in which the argument against enforcing such contracts is arguably correct. I believe such situations are relevant to the intuition in favor of the doctrine, although not necessarily to the real cases to which it is applied. We start with a story:

Unfortunately, you are lost in the desert and dying of thirst. Fortunately, you come across an oasis with an abundant supply of fresh water. Unfortunately, the oasis is owned--by someone who views it, not as an opportunity to save lives, but as a source of income, and is fully capable of defending his ownership.

You ask the owner how much he will charge you for enough water to get out of the desert and back to civilization. He asks to see your wallet. Recognizing the weakness of your bargaining position, you hand it to him. He counts the contents, which come to a total of three hundred and twenty-three dollars and fifty cents, and informs you that, by a curious coincidence, that is precisely the price of the amount of water you require. You pay.

Let us now alter the story a little, by assuming that it occurs under a legal system which takes the principle of freedom of contract seriously--as I have argued, at various points in the book, legal systems should. After examining your wallet, the owner of the oasis asks to see your check book. After examining the record of receipts, payments, and balances

in the back of the check book, he determines that your current balance is two thousand and fifty dollars. Adding that to the amount of cash in your wallet, he informs you that the price of the water is two thousand three hundred and seventy-three dollars and fifty cents.

Finally, we alter the story a little more by assuming a legal system that takes freedom of contract very seriously--more seriously than even I have proposed. After a careful examination of your checkbook, the owner of the oasis concludes that your annual income is about forty thousand dollars. He informs you that the price of the water needed to save your life will be two thousand, three hundred and seventh-three dollars and fifty cents now, plus your signature on a binding contract obliging you to pay him thirty thousand dollars a year for the next forty years.

The outcome of freedom of contract in these stories is not necessarily inefficient--efficiency, after all, deals with the total size of the pie, not how it is sliced. Readers interested in working through the question of whether permitting such contracts results in a net gain or loss, counting gains and benefits to both you and the owner of the oasis, may want to consider the analysis of salvage contracts in this chapter, which deals with the same economic problem in a somewhat different setting--the conclusion is that it might go either way (see note to p. 155 below).

But what will strike most readers is that, whether or not the contracts are efficient, permitting them clearly makes the lost traveler worse off. In a world where such contracts--including the contract implied by writing a check--are unenforceable, he gets his water, and his life, at a much lower price than in one where they are enforceable. That corresponds to the usual intuition about contracts formed under conditions of unequal bargaining power--that making them enforceable makes it easier for powerful people to benefit themselves at the expense of less powerful people.

While it is clear that such a situation is logically possible, and it is plausible, at least to me, that such a situation implicitly underlies the support for the doctrine of considering relative bargaining power in deciding whether to enforce a contract, is much less clear that such situations are of much real world importance.

In the story, the only thing limiting the amount the buyer was willing to pay was how much money he could raise. That was true for two reasons:

1. The good in question--his life--was of such enormous value to him that he was willing to give up anything else that money could buy in order to get it. That is not a situation that most people signing contracts face--not even most poor people. Under most circumstances, what limits how much we are willing to pay is not our ability to borrow against future income but the other uses we have for the money.

2. There was only one seller of the good. If that had not been the case, the amount the buyer was willing to pay to this seller would have been limited by what other sellers were willing to sell it for. While such situations occasionally occur, they are not the norm for most contracts.

Furthermore, in the story, the only constraint on what price the seller would accept was what he thought the buyer could pay, since he had plenty of water. If we change the story by making the seller a second traveler, with an amount of water that would almost

certainly get him to safety and might or might suffice for both travelers, the result changes. The amount of money in your wallet may not be enough to make him willing to accept a sizable chance of losing his own life in the process of trying to save yours. Add in your bank account, and he becomes more likely to take the risk--add in a sizable chunk of your future income and he becomes still more likely. In the previous version of the story, freedom of contract may make you poor; in this version, the absence of freedom of contract may make you dead.

More generally, most prices are determined by the producer's cost of production as well as by the good's value to the buyer. So in the case where the refusal of courts to enforce "unequal" contracts reduces the amount the buyer can pay, it may reduce it below the lowest amount the seller will accept--making the buyer worse off, not better off.

For these reasons, I do not think the story I have told provides adequate support for the legal doctrines associated with the idea of unequal bargaining power. But I do think it provides some explanation of why those doctrines exist.

Page 150 (case cite):

Bowling v. Sperry, 133 Ind. App. 692, 184 N.E.2d 901 (1962) is a case where a minor was allowed not only to disaffirm a contract (for purchasing a car) but to get his money back.

Heights Realty, LTD. v. Phillips, 106 N.M. 692, 749 P.2d 77 (1988) is a case where an exclusive listing contract between a mental incompetent and a broker was held invalid.

Page 150 (case cite):

Sinnar v. Le Roy, 44 Wash.2d 728, 270 P.2d 800 (1954) is a case where a contract was not enforced because "the parties contemplated the use of means other than legal to accomplish the end desired."

Page 150 (cite to webbed material):

A more extensive discussion of rent control is in my *Price Theory* . Also see Robert C Ellickson, "The Homelessness Muddle," *Public Interest*, Spring 1990, at 45.

Page 151 (case cite):

Maxton Builders, Inc. v. Lo Galbo, 68 N.Y.2d 373, 502 N.E.2d 184 (1986) is a case upholding liquidated damages where the amount was held reasonable, since the amount (a 10% penalty for breach of a contract to purchase real estate) was close to the underlying economic loss.

Lake River Corp v. Carborundum Co. 769 F.2d 1284 (1985) is a case where a contract provision was held unenforceable because the court viewed it as a penalty rather than reimbursement of actual damages.

Page 155 (Math):

A ship, value V, will sink if it gets into trouble and no tug boat is near. Whether it gets into trouble depends on whether the owner takes precautions such as instructing the captain not to go to sea when the weather is bad or modifying his ship to make it more seaworthy. Let the cost of precautions by owner of the ship be P_S.

The probability that the ship will get into trouble is a function of precautions: $p_T(P_S)$. p_T is a decreasing function of P_S –the more precautions, the less likely trouble.

Whether a tugboat is near depends on precautions taken by the owner of the tug (P_{TB}), such as having his boat out in bad weather looking for ships in trouble. The probability that the ship will be rescued if it gets into trouble is $p_R(P_{TB})$. A rescue costs R.

The probability that the ship will sink is $p_T(P_S)[1-p_R(P_{TB})]$; the cost of the ship sinking is V.

The probability that the ship will be rescued is $p_T(P_S)p_R(P_{TB})$; the cost of a rescue is R.

The cost to be minimized is the sum of the cost of ships sinking, the costs of ships being rescued, and the cost of precautions:

Total Cost = TC = $p_T(P_S)x[1-p_R(P_{TB})]V+p_T(P_S)p_R(P_{TB})R+P_S+P_{TB}$

The values of P_S,T that minimize TC must satisfy:

$$0 = \frac{dTC}{dP_S} = \frac{dp_T}{dP_S}\left[\left[1 - p_R(P_{TB})\right]V + p_R(P_{TB})R\right] + 1 \qquad \text{(Equation 1)}$$

$$0 = \frac{dTC}{dP_{TB}} = \frac{dp_R}{dP_{TB}}\left[p_T(P_S)[R - V]\right] + 1 \qquad \text{(Equation 2)}$$

Let P be the price paid for a rescue. The ship owner wishes to minimize the sum of the cost of his precautions, the cost of his ship sinking, and the cost of his ship being rescued:

Ship owner's Cost =SC= $p_T(P_S)x[1-p_R(P_{TB})]V + p_T(P_S)p_R(P_{TB})P+P_S$

He does so by choosing P_S such that:

$$0 = \frac{dSC}{dP_S} = \frac{dp_T}{dP_S}\left[\left[1 - p_R(P_{TB})\right]V + p_R(P_{TB})P\right] + 1 \qquad \text{(Equation 3)}$$

The tug owner wishes to maximize his payments for rescue minus the cost to him of rescues minus the cost of precautions:

Tug owner's benefit =TB= $-p_T(P_S)p_R(P_{TB})[P-R]-P_{TB}$

Which he does by choosing a value of P_{TB} such that:

$$0 = \frac{dTB}{dP_{TB}} = \frac{dp_R}{dP_{TB}}\left[p_T(P_S)[P-R]\right]+1 \quad \text{(Equation 4)}$$

If we set P = R, Equation 3 becomes identical to equation 1. If we set P=V, Equation 4 becomes identical to Equation 2. So paying the tug owner the cost of his rescue provides the right incentives for the ship owner to take precautions; paying the tug owner the value of the ship provides the right incentive for the tug owner to take precautions. There is no price that does both.

Page 156 (case cite):

Austin Instrument Inc. v. Loral Corp., 29 N.Y.2d 124, 272 N.E.2d 253 (1971) is a case where a firm obtained refund of a price increase, which it had agreed to pay under pressure, on grounds of economic duress. The case does not fit our analysis of the sinking ship, since the "emergency" was the result, not of an external emergency, but of the supplier threatening to breach its contract if it did not get the higher price. Arguably this is closer to the case of the mugger.

Henningsen v. Bloomfield Motors, Inc., 32 N.J. 368 368, 161 A.2d 69 (1959) is an example of a contract invalidated by the court because "From the standpoint of the purchaser, there can be no arms length negotiating on the subject. ... He must take or leave the automobile on the warranty terms dictated by the maker."

Page 157 (case cite):

In *Cutler Corp. v. Latshaw*, 374 Pa. 1, 97 A.2d 234 (1953), the court held unenforceable a warrant of attorney with confession of judgement, which was buried in fine print on the back of the agreement. The court dictated that "when a party to a contract seeks to bind the other with ... a device not ordinarily expected...the inclusion of such a...provision must appear in the body of the contract and cannot be incorporated by a casual reference with a designation not its own."

Page 158 (case cite):

Ricketts v. Scothorn, 57 Neb. 51, 77 N.W. 365 (1898) provides an example of a contract without consideration, enforced on grounds of reliance. "Having intentionally influenced

the plaintiff to alter her position for the worse on the faith of the note being paid when due, it would be grossly inequitable to permit the maker, or his executor, to resist payment on the ground that the promise was given without consideration."

Feinberg v. Pfeiffer Co., 322 S.W.2d 163 (Mo. App. 1959) and *Ricketts v. Scot*horn are detrimental reliance cases. The latter is closer to the example in the book. The plaintiff's grandfather had made a promise to her but, after his death, his executor refused to honor it; the court held for the plaintiff.

Page 159 (case cite):

For a real case on whether someone is entitled to a reward if he did not know it had been offered, see *Broadnax v. Ledbetter*, 99 S.W. 1111 (Tex. 1907), which found the offer unenforceable.

Another example is *Glover v. Jewish War Veterans of US* 68 A.2d 233 (1949). The parents of the girlfriend of a murder suspect gave information about the suspect's whereabouts which lead to his arrest. The court found that the parents were not entitled to the reward that had been offered because it is "impossible for an offeree actually to assent to an offer unless he knows of its existence."

Page 159 (Math):

Searching provides a good example of the difference between maximizing output (Posner's suggested criterion) and maximizing net gain from the activity (mine), because it involves rent seeking—the lost cat is a common pool resource. Suppose that if one person looks for the cat the chance of finding it is 10%, if two people look the chance is 15%. The owner offers a reward of $100, which is the full value of the cat. The cost to each searcher of searching is $6.

If one person is searching, the cost to the searcher is $6, the expected return is $10 (10% chance of finding a $100 cat), net gain is $4. If two people are searching the cost is $12, expected return is $15, net gain is $3. So in the latter case we have a higher probability of finding the cat but a lower net gain from the activity.

Each searcher, however, still benefits from searching, since the chance that he will find the cat is 7.5%, making his expected return $7.50, which is more than his cost of searching. So there will be (at least) two searchers.

Page 159 (additional comments):

§ 2-201. Formal Requirements; Statute of Frauds.

For an example of a state statute, see

N.Y. General Obligations Law

§ 5-701. Agreements required to be in writing

§ 5-703. Conveyances and contracts concerning real property required to be in writing

A gratuitous promise to transfer property is enforceable if the promisee had relied on it by moving onto the land and making improvements: *Greiner v. Greiner*, 131 Kan. 760, 293 P. 759 (1930).

Page 160 (case cite):

Cotnam v. Wisdom, 104 S.W. 164 (Ark. 1907) is a case where a doctor rendered emergency services to an unconscious payment, who died without recovering consciousness. *In re Crisan Estate*, 107 N. W.2d 907 (Mich. 1961) is a similar case involving a hospital. Farnsworth, in whose *Contracts* I found these examples, comments that "The reader who wonders what effect the patient's religious scruples regarding medical treatment might have will have to be content with the Michigan court's comment that "there is surprisingly little case authority to be found" in this area. (p. 104 fn 27).

Such cases are sometimes referred to as involving "restitution" (someone has performed a valuable service and deserves to be compensated), "quasi-contract," or as being in "*quantum meruit*."

Page 160 (additional comments):

The Uniform Commercial Code provides a number of legal rules designed to fill in gaps left in contracts--and is available online.

§ 2-305. Open Price Term.

§ 2-306. Output, Requirements and Exclusive Dealings.

§ 2-307. Delivery in Single Lot or Several Lots.

§ 2-308. Absence of Specified Place for Delivery.

§ 2-309. Absence of Specific Time Provisions; Notice of Termination.

§ 2-310. Open Time for Payment or Running of Credit; Authority to Ship Under Reservation.

§ 2-509. Risk of Loss in the Absence of Breach.

§ 2-504. Shipment by Seller.

Page 160 (additional comments):

Why Can't I Sue for Benefits?

Under our tort system, someone who imposes costs on another is, under many circumstances liable to pay tort damages. But someone who imposes a benefit on another is only rarely permitted to use the law to force the beneficiary to pay for it. Why?

One possible answer is that if I am considering an action that benefits you, I can ask you to pay for it and refuse to take the action if you don't--that, after all, is the way services are normally provided in a market society. But what about the case of a public good? Suppose I am considering some action that will impose benefits on a lot of other people--building a flood control dam, constructing a particular attractive building, or financing fundamental research in medicine? The same sorts of transaction costs that frequently prevent a market solution to problems of negative externality apply here. Each of the potential beneficiaries knows that his contribution will have only a minor effect on whether I decide to take the action. If the others do not contribute enough, his contribution will do no good; if they contribute enough without him, he can free ride on their efforts. So why isn't the argument for using the legal system to produce public goods by allowing the producer of positive externalities to sue the beneficiaries just as good as the argument for using the legal system to prevent public bads by allowing the victims to sue the producer?

One possible answer is that the absence of tort damages (or injunctions) for negative externalities creates an opportunity for costly strategic behavior. There are lots of things I could do on my land that would impose costs on you--play loud music late at night (if I am a night owl and you are not), hold nude parties on the lawn (if I am a libertine and you a prude), et *multae caetera*. If I am not liable, I have an incentive to threaten to do such things, whether or not they are worth doing, even to start doing them, in order to be paid to stop. You, of course, have similar threats to use against me. Arguably, in a world without the law of nuisance, people might expend considerable resources in such games of mutual extortion.

Consider the analogous problem for positive externalities. I am planning to repaint my house. After hearing a few of my neighbors comment on how much it will improve the appearance of the neighborhood--and raise their property values--I announce that I am canceling my plans to repaint--unless my neighbors agree to pay part of the expense. Here again, there is the potential for a costly threat game, as each party refrains from actions that would both benefit himself and impose positive externalities on others, not because the actions are not worth taking but because he is trying to bluff someone else into paying for them.

While such a situation is possible, it seems much less likely than the corresponding problem with negative externalities. Situations where I can, at some small cost to myself, make things worse for other people are common. There are, after all, a lot of ways of hurting people. Situations where I can, at some small cost to myself, avoid making things better for other people--postpone repainting the house even though I am sick and tired of how shabby it looks--are uncommon, since they occur only if there is something I already want to do that would have the side effect of benefiting them.

What this argument suggests is that, in the absence of strategic behavior, the argument for using the court to impose Pigouvian taxes is roughly the same whether the externality is positive or negative, and the appropriate taxes thus negative or positive. Strategic behavior--threatening to take actions not worth taking in order to be paid not to, or threatening not to take actions worth taking in order to paid to take them--makes the difference. Legal liability, positive or negative, provides a way of controlling both sorts

of strategic behavior--but only the former is likely to be common enough to need such a control.

One case in which such suits are sometimes permitted is when one of a pair of adjacent property owners repairs a fence between the two properties, and requires the other property owner to reimburse him. The problem here, presumably, is bilateral monopoly bargaining.

Page 162 (case cite):

Hadley v Baxendale , 1. 9 Ex. 341, 156 Eng. Rep. 145 (1854).

Page 163 (case cite):

The land clearing (actually, leveling) case is *Groves v John Wunder Co.* 205 Minn. 163 , 286 N.W. 235 (1939). The cost of the leveling would have been $60,000, the value of the land after leveling only $12,000. The court awarded damages of $60,000, thus giving the plaintiff the upper limit of the bargaining range (assuming he had bargained with the threat of insisting on specific performance of the contract), and making the defendant (assuming he had anticipated the result) indifferent between breaching and (inefficiently) performing. The case is discussed in Richard Posner, *Economic Analysis of Law*, 5th edn., p. 134.

Page 164 (case cite):

An example of a case where specific performance was granted for a contract not involving real estate (involving the supplying of tomatoes, which were in short supply) is *Curtice Borthers Co. v. Catts*, 72 N.J. Eq. 831, 66 A. 935 (1907). The issue of a buyer's right to specific performance or replevin is covered by UCC 2-716.

Page 168 (case citation):

Laidlaw v Organ, 15 U.S. 178 (1817).

See also the discussion of the case in Anthony T. Kronman, "Mistake, Disclosure, Information, and the Law of Contracts, 7 *J. Leg. Stud*. 1, 9-18 (1978).

Page 170 (cite to a book or article):

I believe this point was first made in Jack Hirshleifer, "The Private and Social Value of Information and the Reward to Inventive Activity," *The American Economic Review*, Vol. 61, No. 4. (Sep 1971), pp. 561-574.

Chapter 13

Page 174 (cite to a book or article):

Lloyd Cohen, Marriage, Divorce, and Quasi Rents; or, "I Gave Him the Best Years of My Life," *J. Legal Stud.*, June 1987.

Page 175 (additional comments):

In *In Re Marriage of Graham*, Supreme Court of Colorado, 1978 574 P. 2d 75, the court held that an education obtained by one spouse during a marriage is jointly owned property to which the other spouse has a property right, and so awarded Anne P. Graham a fraction of the estimated increase in the future earnings of Dennis J. Graham that resulted from the degree he obtained while she was the couple's primary money earner. The district court's verdict to that effect was reversed by the appeals court, on the grounds that an education was not "property" subject to division under the state's Uniform Dissolution of Marriage Act, and that result in turn reversed by the state Supreme Court. On the other hand, in *Mahoney v. Mahoney*, 91 N.J. 488, 453 A.2d 527 (1982), the court refused to recognize a professional degree as marital property and introduced instead the idea of "reimbursement alimony" for "the contributions he or she made to the spouse's successful professional training."

For discussions of to what degree spouses and prospective spouses are and should be free to contract on the terms of their marriage, in particular with regard to property, see:

Theodore F. Haas, "The Rationality and Enforceability of Contractual Restrictions on Divorce," 66 *N.C.L. Rev*. 879 (1988).

Marjorie M. Schultz, "Contractual Ordering of Marriage: A New Model for State Policy," 70 *Cal. L. Rev*. 204 (1982);

Faith H. Spencer, "Expanding Marital Options: Enforcement of Premarital Contracts During Marriage," 1989 *U. Chi. Leg. Forum* 281.

"The Uniform Marital Property Act § 10(g) (1983) and Uniform Premarital Agreement Act §6 (1983) both provide for enforcement of antenuptial property agreements unless there was insufficient disclosure of wealth and the agreement was unconscionable when made. Most states have not gone so far in permitting freedom of antenuptial contract."

Dukminier and Krier, Property, p. 413, from which the references given above are also taken.

Page 175 (additional comments):

In the US men outnumbered women by about 3% in 1850; women outnumbered men by 4% in 1970. An article in the March 20, 2000 issue of Forbes discusses the question of gender ratios, in a report on a recent book which apparently makes the same argument I offer in the text. I plan to add a link to the article when it becomes available online.

Shoshonna Grossbard-Shechtman at San Diego State has done work in the area, including looking at sex ratios. She published a book a few years ago *called The Economics of Marriage* but I have not yet had a chance to look at it.

Page 175 (cite to webbed material):

For an article that questions the view that subsidies to illegitimate childbearing do not explain changes in illegitimacy rates, see Margaret F. Brinig and F.H. Buckley, The Price of Virtue, 98 *Public Choice* 111 (1999). (The link is to a downloadable version of the article in rtf format, not to a web page). The authors find that the average monthly payout per family under the Aid for Families with Dependent Children program has a significant positive relation to illegitimacy rates, when they control for a variety of other relevant factors.

They point out that during the 80's, when real AFDC payments were falling, other subsidies were rising:

"Real per capita state and local public welfare expenditures (excluding education, health and hospitals) increased from $209 in 1980 to $276 in 1989. Real payouts also increased under federal and joint federal-state programs such as food stamps, school lunches, supplemental security income, and Medicaid. These increases largely offset AFDC cuts."

Page 176 (cite to a book or article):

Akerlof and Yellin, "New Mothers, Not Married: Technology shock, the demise of shotgun marriage, and the increase in out-of-wedlock births" *The Brookings Review*, Fall 1996 Vol. 14 No. 4, Pages 18-21.

Also see George A. Akerlof, Janet L. Yellin, J. L., & Michael L. Katz, "An Analysis of Out-of-Wedlock Childbearing in the United States," 111 *Q. J. Econ*. 277 (1996)

Page 178 (cite to a book or article):

"In Sweden in 1911, a one-in-three likelihood existed that a woman would already be pregnant when she married; this was the same in 1948. And in German industrial cities before World War I, a third to a half of all marriages began with the bride pregnant. Thirty years later the same state of affairs persisted."

Shorter, Edward, *The Making of the Modern Family*, Basic Books, N.Y. 1975, p. 109. It is a fascinating book, arguing that family patterns before about 1800 were shockingly different from those we take for granted, sometimes in quite ugly ways.

For the first claim, Shorter cites Sydney H. Croog, "Premarital Pregnancies in Scandinavia and Finland, "*American Journal of Sociology*, 57 (1952), 358-365, esp. p. 361 and Phillips Cutright, *Illegitimacy: Myths, Causes and Cures*, p. 40. and for the second, "the string of references in C. Rauhe, *Die unehelichen Beburten als Sozialphänomen: Ein Beitrag zur Bevölkerungsstatistic Preussens* (Munich, 1912), p. 19,

Dr. Schneider, "Ueber voreheliche Schwängerung," *Jahrbücher für Nationalökonomie und Statistic*, 3rd ser., 10 (1895), 554-561, esp. p. 555.

Page 178 (cite to webbed material):

Part of Margaret Brinig's "Rings and Promises" is available online as an rtf file. Her home page also contains links to a number of her papers on issues related to sex and the family.

She has also put up a page with links to sources of online data relevant to the law and economics of the family.

Page 179 (case cite):

A mid 19th century brief summary of the relevant law is webbed, as is a recent summary of the relevant (old) common law, including that on seduction (from British Columbia). It includes the following:

"A parent, for example, cannot sue, in that character, for an injury inflicted on his child and when his own domestic happiness has been destroyed, unless the fact will sustain the allegation that the daughter was the servant of her father, and that, by, reason of such seduction, he lost the benefit of her services.

The court may consider such factors as the dishonour to the plaintiff and loss of the seduced person's comfort and society."

"Loss of services postulates a right to services. This requirement has likewise been attenuated to a point where it is often little more than a pretence. If the child is under age, a mere right to its service is deemed sufficient; though if it is of tender years, its inability to render domestic assistance would still preclude recovery, except for necessary medical expenses. If of full age, proof of actual services rendered is required, though the evidence need be but slight, and any de facto service, however trivial, such as making a cup of tea, milking cows, or occasionally assisting in the running of the household, is sufficient."

(Fleming, *The Law of Torts*, (5th ed., 1977) 639-40.)

There is a case reference to *Bilinski v. Kowbell*, supra, n. 59 per Martin J.A. at 248.

Page 180 (cite to a book or article):

Giacomo Casanova, *History of My Life*, First translated in English in accordance with the original French manuscript by Willard R. Trask, (Harcourt, Brace Jovanovich, N.Y., 1971.

Casanova provides a wonderful first-hand view of 18th century Europe, top to bottom, from Moscow to London. He was what contemporaries described as an "adventurer," meaning a combination confidence man, entrepreneur, and gambler. His autobiography (six volumes in the English translation) describes his life through about age forty. It is a

vividly written memoir which provided material for several later writers. The escape in *The Count of Monte Cristo* is apparently based on Casanova's real life escape from under the leads in Venice (a story he seems to have dined out on for the rest of his life), and the memoirs were also a major influence on Thomas Mann's *Felix Krull.*

The original manuscript of the memoirs only came to light after World War II. Previous translations are based on a published version that had been heavily edited, after Casanova's death, by an editor who was not nearly as good a writer as Casanova.

Page 181 (cite to a book or article):

Richard Posner, "The Regulation of the Market in Adoptions," *67 Boston University Law Review* 59 (1987).

See also Boudreaux, Donald, "A Modest Proposal to Deregulate Infant Adoptions, *Cato Journal*, vol 15 no. 1 (Spring/Summer 1995).

Page 182 (cite to a book or article):

The commodification argument that I discuss is defended in Radin, Margaret, "Market-Inalienability", 100 *Harv. L.Rev*. 1849 (1987).

Page 182 (cite to webbed material):

An explanation of why price control typically increases the cost of goods to the consumer can be found near the beginning of Chapter 17 of *Price Theory* (webbed).

Page 183 (case cite):

In Re Baby M, 109 N.J. 396,537 A A,2d 1227.

Page 183 (cite to a book or article):

For an excellent explanation and discussion of current, and potential future, developments in reproductive technology, see Lee Silver, *Reinventing Eden: How Genetic Engineering and Cloning Will Transform the American Family,* Avon Books 1997.

For a prescient fictional description of such a technology and its consequences, see R. Heinlein, *Beyond This Horizon*.

The immediate scientific basis for the potential application of genetic engineering to humans is the human genome project (webbed information available).

Page 185 (additional comments):

Hate mail with regard to my comments on the local Humane Society may be addressed to DDFr@Best.com. Oddly enough, two of the people who read the manuscript of the book had had somewhat similar experiences.

Page 186 (cite to webbed material):

My early work on the economics of population is in David Friedman, "Laissez-Faire in Population: The Least Bad Solution," webbed on my page.

Chapter 14

Page 190 (case citation):

"This is like the case of 11 H. 4, 47. One schoolmaster sets up a new school to the damage of an intient school, and thereby the scholars are allured from the old school to come to his new. (The action was held there not to lie.)" Holt, C.J. in Keeble v. Hickeringill, QB, 1707, 11 East 574, 103 Eng. Rep. 1127, citing an English case from 1410.

Page 191 (case cite):

The trolley case is *Berry v. The Bourough of Sugar Notch*, 191 Pa. 345 , 43 A. 240 (1899). The provision of the ordinance that the trolley violated was "that the speed of the cars while on the streets of the borough should not exceed eight miles an hour." Another coincidental causation case is *Central of Georgia Ry. Co. v. Price*, 106 Ga. 176 , 32 S.E. 77 (1898), where the plaintiff was dropped off at her station as a result of the negligence of the railroad, and ended up in a hotel where she was injured when the mosquito netting covering the bed caught fire.

Page 192 (case citation):

The actual cases of redundant causation that I know of involve liability for damage due to fires started by two independent causes--raising the question of whether each party has a defense in the fact that the fire would have happened anyway. In some both parties are human, in some one fire is of unknown origin, and in some one fire is believed due to natural causes. From one such case:

"We, therefore, have this situation: The northeast fire was set by sparks emitted from defendant's locomotive. This fire, according to the finding of the jury, constituted a proximate cause of the destruction of plaintiff's property. This finding we find to be well supported by the evidence. We have the northwest fire, of unknown origin. This fire, according to the finding of the jury, also constituted a proximate cause of the destruction of the plaintiff's property. This finding we also find to be well supported by the evidence. We have a union of these two fires 940 feet north of plaintiff's property, from which point the united fire bore down upon and destroyed the property. We, therefore, have two

separate, independent, and distinct agencies, each of which constituted the proximate cause of plaintiff's damage, and either of which, in the absence of the other, would have accomplished such result.

It is settled in the law of negligence that any one of two or more joint tort-feasors, or one of two or more wrongdoers whose concurring acts of negligence result in injury, are each individually responsible for the entire damage resulting from their joint or concurrent acts of negligence. This rule also obtains--

"where two causes, each attributable to the negligence of a responsible person, concur in producing an injury to another, either of which causes would produce it regardless of the other, * * * because, whether the concurrence be intentional, actual or constructive, each wrongdoer, in effect, adopts the conduct of his coactor, and for the further reason that it is impossible to apportion the damage or to say that either perpetrated any distinct injury that can be separated from the whole. The whole loss must necessarily be considered and treated as an entirety." *Cook v. Minneapolis, St. Paul & Sault Ste. Marie R. Co.*,98 Wis. 634 , at page 642, 74 N. W. 561 , 566 (40 L. R. A. 457 , 67 Am. St. Rep. 830).

That case presented a situation very similar to this. One fire, originating by sparks emitted from a locomotive, united with another fire of unknown origin and consumed plaintiff's property. There was nothing to indicate that the fire of unknown origin was not set by some human agency. The evidence in the case merely failed to identify the agency. In that case it was held that the railroad company which set one fire was not responsible for the damage committed by the united fires because the origin of the other fire was not identified. In that case a rule of law was announced, which is stated in the syllabus prepared by the writer of the opinion as follows: "A fire started by defendant's negligence, after spreading one mile and a quarter to the northeast, near plaintiffs' property, met a fire having no responsible origin, coming from the northwest. After the union, fire swept on from the northwest to and into plaintiffs' property, causing its destruction. Either fire, if the other had not existed, would have reached the property and caused its destruction at the same time. Held:

(1) That the rule of liability in case of joint wrongdoers does not apply.

(2) That the independent fire from the northwest became a superseding cause so that the destruction of the property could not, with reasonable certainty, be attributed in whole or in part to the fire having a responsible origin; that the chain of responsible causation was so broken by the fire from the northwest that the negligent fire, if it reached the property at all, was a remote and not the proximate cause of the loss."

Emphasis is placed upon the fact, especially in the opinion, that one fire had "no responsible origin." ... From our present consideration of the subject, we are not disposed to criticise the doctrine which exempts from liability a wrongdoer who sets a fire which unites with a fire originating from natural causes, such as lightning, not attributable to any human agency, resulting in damage. ...

Speaking of the decision in the Cook Case, Thompson, in his work on Negligence, § 739, says:

"The conclusion is so clearly wrong as not to deserve discussion. It is just as though two wrongdoers, not acting in concert, or simultaneously, fire shots from different directions

at the same person, each shot inflicting a mortal wound. Either wound being sufficient to cause death, it would be a childish casuistry that would engage in a debate as to which of the wrongdoers was innocent on the ground that the other was guilty."

Owen, J. in *Kingston v. Chicago & N.W. Ry*. 191 Wis. 610 , 211 N.W. 913 (1927)

Judge Owen raises the question of whether it matters if one of the two fires is of natural origin but never adequately answers it. A partial answer in the general case of redundant causation is suggested by the discussion in Chapter 14. One reason not to hold the two hunters innocent is that doing so may be an invitation to conspiracy to murder--via an arranged "accident"--which isn't a problem if one of the causes is natural. But that argument does not seem relevant to the fire cases.

The chief argument for liability in the two hunter case is that, because it is costly to adequately punish hunters who do cause death, we supplement the ex post punishment for causing death with an ex ante punishment for actions that might cause death--the same argument earlier used to explain punishment of attempts.

But that argument too seems irrelevant to the fire cases; presumably the Chicago & Northwestern Railway had sufficient resources to fully compensate the plaintiff for the loss of his property. So holding the railroad guilty only when its negligence results in the loss of the property will provide an adequate level of deterrence. Hence the court was wrong. Tortfeasors who are unlikely to be judgement proof, in clear cases of redundant causation, where there is no risk of conspiracy, ought not to be held liable--whether the two agencies were human or one of them natural.

The closest real-world hunting cases to my two hunter story are ones, such as *Summers v Tice* 33 Cal. 2d 80 , 199 P.2d 1 (1948), *Moore v. Foster*, 182 Miss. 15 , and *Oliver v. Miles*, 144 Miss. 852 --cases where two hunters fire, someone is injured, and it is not known which hunter is responsible. Such cases are, however, more relevant to the problem of probabilistic causation, discussed as causation part II, than to the issue of redundant causation.

Page 193 (cite to webbed material):

The idea of marginal value, and its connection with price, is discussed at some length in Chapter 4 of *Price Theory* (webbed).

Page 195 (cite to a book or article):

Landes and Posner, in *The Economic Structure of Tort Law* (Cambridge, MA: Harvard University Press 1987) suggest that it is not really inefficient, since the reactor will only be liable if it was negligent, and it shouldn't have been negligent. The problems with this argument are discussed below under the topic of liability.

Page 196 (case cite):

The case is *Sindell v Abbot Laboratories*, 26 Cal. 3d 588, 607 P.2d 924, 163 Cal. Rptr. 132 (1980). See: Comment, DES and a Proposed Theory of Enterprise Liability (1978) 46 *Fordham L. Rev*. 963, 964-967.

Page 197 (additional comments):

An earlier form of the argument, by the same judge:

"If the fares will not pay for this damage, and fair profit on the companies capital, the speculation is a losing one ... Either therefore the railway ought not to be made, or the damage may well be paid for."

B. Bramwell *in The Directors of the Hammersmith and City Railway Company v. Brand* (1869)

The essential logic of Pigouvian taxation--eight years before Pigou was born. (Pigou's version of the idea probably appears first in The Economics of Welfare, 1920)

Page 198 (case cite):

The Hand formula comes from *United States v. Carroll Towing Co*., 159 F.2d 169 , 173 (2d Cir. 1947), where Judge Learned Hand stated that "an actor is negligent if the cost of an omitted precaution is less than the probability of harm multiplied by the extent of the harm caused by the omission."

Page 200 (cite to a book or article):

Simpson, A.W.B., "Legal Liability for Bursting Reservoirs: The Historical Context of Rylands v Fletcher, JLS 13 pp. 209-264.

Page 201 (additional comments):

Readers who find the idea of cars and tanks on the same roads implausible may want to consider this photo of a speed limit sign, taken on a recent trip to Germany.

Page 204 (additional comments):

A verbal and mathematical discussion of the effects of legal error can be found in Steven Shavell, *Economic Analysis of Accident Law*, (Harvard University Press: Cambridge: 1987). The verbal discussion on pages 79-82 of the book makes it appear that error by the court in determining whether a party was negligent can be expected to lead to an inefficiently high level of precautions ("a general consequence of uncertainty over the assessment of true levels of care is that parties will tend to be led to take more than due care ...") although exceptions are possible. A careful examination of the mathematical version on pages 95-96, however, makes it clear that the result

depends on assuming that "the distribution of errors is not too dispersed," and no evidence or argument is offered as to how dispersed we can expect it to be.

The mathematical argument is straightforward. Assume the correct level of care is X but that, due to court error, a defendant who exercises a level at or above X may still be found negligent and one who exercises a level of care below X may be found not negligent. Further assume that the probability of being found negligent decreases as the defendant's actual level of care increases. Error then affects the level of care in two directions:

A. Increasing the level of care decreases the probability of being found negligent, giving an extra incentive to increase care in addition to the incentive provided by the fact that increased care reduces the risk of an accident. This effect by itself would result in a higher than optimal level of care, since we already know that a negligence system without court error leads to the efficient level.

B. At levels of care below the optimal, the probability of being found negligent, hence liable, is less than one, which decreases the incentive to take care relative to the incentive under a negligence system without court error. This effect by itself would result in a lower than optimal level of care.

We have no theoretical basis for calculating the relative size of the two effects, since it depends on the (unknown) distribution of court error.

Page 206 (additional comments):

A classic 19th century statement of this position is the (eleven page!) footnote 1 in § 253 of *Greenleaf on Evidence* (pp. 253-264, fourteenth edition, Boston: Little, Brown and Co., 1883).

"From this examination of the authorities, adduced in support of the position, that, in the cases alluded to, damages may be given purely by way of punishment, irrespective of the degree and circumstances of injury to the plaintiff, it is manifest that it has not the countenance of any express decision upon the point, though it has the apparent support of several obiter dicta, and may seem justified by the terms "exemplary damages," "vindictive damages," "smart-money," and the like, not unfrequently used by judges, but seldom defined. But taken in the connection in which these terms have been used, the seem to be intended to designate in general those damages only which are incapable of any fixed rule, and lie in the discretion of the jury; such as damages for mental anguish, or personal indignity and disgrace, &c., and these, so far only as the sufferer is himself affected. If more than this was intended, how is the party to be protected from a double punishment? For after the jury shall have considered the injury to the public, in assessing damages for an aggravated assault, or for obtaining goods by false pretences, or the like, the wrong-doers are still liable to indictment and fine, as well as imprisonment, for the same offense."

Greenleaf's position is strongly supported by the court in *Fay v. Parker.* The opposite position is argued in *Sedgewick on Damages*, p. 39.

"The ends of punishment may be answered by taking the criminal's goods from him; but these ends do not require that the property which he loses should be vested in the person whom he has injured." (1 *Rutherforth's Institutes*, b.1,c.18, §xiv. p. 434.)

Page 207 (case cite):

The grouse hunting case is *Merest v. Harvey*, 5 Taunt 442, 443, 128 Eng. Rep. 761, 761 (1814). A similar challenge some centuries earlier produced the battle of Chevy Chase and a famous ballad.

Page 207 (case cite):

One of the earliest reported cases involving exemplary damages, *Huckle v. Money*, 2 Wils. 205, 95 Eng. Rep. 768 (C. P. 1763), arose out of King George III's attempt to punish the publishers of the allegedly seditious *North Briton*, No. 45. The King's agents arrested the plaintiff, a journeyman printer, in his home and detained him for six hours. Although the defendants treated the plaintiff rather well, feeding him "beef steaks and beer, so that he suffered very little or no damages," 2 Wils., at 205, 95 Eng. Rep., at 768, and *Huckle v. Money* (1763). See also *Wilkes v Wood* (1763)

The *Wilkes* case arose out of the crown's attempt to stifle a publication called the *North Briton*, anonymously published by John Wilkes, then a member of parliament - particularly issue no. 45 of that journal. Lord Halifax, as secretary of state, issued a warrant ordering four of the king's messengers "to make strict and diligent search for the authors, printers, and publishers of a seditious and treasonable paper, entitled, the north briton, no. 45, ... And them, or any of them, having found, to apprehend and seize, together with their papers." (fn10) "armed with their roving commission, they set forth in quest of unknown offenders; and unable to take evidence, listened to rumors, idle tales, and curious guesses. They held in their hands the liberty of every man whom they were pleased to suspect." (fn11) holding that this was "a ridiculous warrant against the whole english nation," (fn12) the court of common pleas awarded Wilkes damages against the secretary of state.

John Eentick was the author of a publication called *Monitor or British Freeholder*. A warrant was issued specifically naming him and that publication, and authorizing his arrest for seditious libel and the seizure of his "books and papers." The king's messengers executing the warrant ransacked Entick's home for four hours and carted away quantities of his books and papers. In an opinion which this court has characterized as a wellspring of the rights now protected by the fourth amendment, (fn13) Lord Camden declared the warrant to be unlawful. "This power," he said, "so assumed by the secretary of state is an execution upon all the party's papers, in the first instance. His house is rifled; his most valuable secrets are taken out of his possession, before the paper for which he is charged is found to be criminal by any competent jurisdiction, and before he is convicted either of writing, publishing, or being concerned in the paper." *Entick v. Carrington*. (FN14)

(From a webbed opinion.)

Page 207 (cite to a book or article):

The Posner and Landes explanations of punitive damages can be found *in The Economic Structure of Tort Law* , pp. 160-163, and Richard Posner, *Economic Analysis of Law* fifth edn., pp. 224-229, 240-242.

Page 207 (cite to a book or article):

For a discussion of the current situation with regard to punitive damages, see:

Jonathan M. Karpoff and John R. Lott, Jr., "On the Determinants and Importance of Punitive Damage Awards," *JLE* XLII(1) (Pt. 2) April 1999, pp. 527-573. and the articles cited therein. A related working paper is webbed in pdf format.

For earlier empirical work on punitive damages, see Theodore Eisenberg, John goerdt, Brian Ostrom, David Rottman, and Martin T. Wells, "The Predictability of Punitive Damges," *Journal of Legal Studies* XXVI(s) (Pt. 2) (June 1997) p. 623.

Page 209 (Math):

The analysis of optimal punishment in this chapter can be put in more precise mathematical form as follows. We define:

$\rho(b)$: the density of offenses per year as a function of the gain b to the offender of committing the offense.

$Q(P)=\int_P^\infty \rho(b)db$:the number of offenses per year whose perpetrators gain more than P by committing them. Since an offense will be committed only if the gain is at least as great as the expected punishment, Q(P) is the number of offenses that occur annually if the expected punishment is P.

C(P): the cost per offense of imposing an expected punishment P, using the least costly combination of actual punishment and probability. I assume that this does not depend on the number of offenses.

D: the damage done per offense. For simplicity this too is assumed independent of the number of offenses.

We wish to choose P to minimize a social cost function:

$$SC(P) = Q(P)\,[D+C(P)] - \int_P^\infty b\rho(b)db \quad \text{(Equation 1)}$$

$$= \int_P^\infty \rho(b)dp\,\left[\,D+C(P)\,\right] - \int_P^\infty b\rho(b)db$$

The first term on the right hand side is the cost of crime--number of offenses multiplied by damage per offense plus enforcement cost (the cost of catching, convicting, and punishing offenders) per offense. The second term is the benefit of offenses to the offenders. The integral starts at b=P because only crimes for which benefit is at least equal to expected punishment will be committed.

Setting the derivative of SC(P) with regard to P equal to 0, we have:

$$0 = - D\rho(P)+dQ[(P)C(P)]/dP+P\rho(P) =\rho(P)[P-D] + \frac{d[\,Q(P)C(P)\,]}{dP}$$

Solving for the optimal punishment $\hat{P}$ we have:

$$\hat{P}=D - \frac{1}{\rho(P)} \frac{d[\,Q(P)C(P)\,]}{dP} \quad \text{(Equation 2)}$$

Equation 2 is the mathematical equivalent of the result derived in the earlier verbal argument. Q(P)C(P) is the total cost of imposing an expected punishment of P on Q(P) offenses. Deterring one more offense requires an increase in P of $\frac{1}{\rho(P)}$, so $\frac{1}{\rho(P)} \frac{d[\,Q(P)C(P)\,]}{dP}$ is the cost of deterring one more offense. If $\frac{1}{\rho(P)} \frac{d[\,Q(P)C(P)\,]}{dP} >0$ then total enforcement cost is increasing with increasing punishment, and, as can be seen from Equation 2, the optimal punishment is less than the damage done. If $\frac{1}{\rho(P)} \frac{d[\,Q(P)C(P)\,]}{dP} <0$ then total enforcement cost is decreasing with increasing punishment (due to the decrease in the number of offenses) and the optimal punishment is more than the damage done.

Page 211 (cite to webbed material):

A striking example is the Steve Jackson case, where Secret Service agents engaged in a surprise search and seizure of a publisher in blatant violation of federal law, seizing all copies, hardcopy and machine readable, of a book about to be published. The victim's lawyer pointed out to them the next day that they were in violation of the law and asked for the return of the seized materials. They were returned several months later. The victim sued and won–but got only ordinary damages despite the reckless and deliberate behavior of the agents. His suit was made possible by legal help from the Electronic Freedom

Foundation. Most of those victimized in the same set of legal actions (chronicled in The Hacker Crackdown) were not so fortunate. A summary of the case written by one of the attorney's is webbed.

Page 214 (case cite):

In *Escola v. Coca-Cola Bottling Co. of Fresno*, 24 Cal. 2d 453, 150 P.2d 436 (1944), the coca cola bottle that exploded (injuring the waitress who was transferring the bottles to the refrigerator) had been out of refrigeration for "at least thirty-six hours" in Fresno, California. The case was heard (on appeal) in July, but I have not been able to find out at what time of the year the accident happened.

As evidence that courts are concerned with the problem of joint causation, consider the following passage from the opinion by Gibson, C.J.:

"As said in *Dunn v. Hoffman Beverage Co.*, 126 N.J.L. 556 [20 A.2d 352 , 354],

"defendant is not charged with the duty of showing affirmatively that something happened to the bottle after it left its control or management; ... to get to the jury the plaintiff must show that there was due care during that period."

Plaintiff must also prove that she handled the bottle carefully. The reason for this prerequisite is set forth in *Prosser on Torts*, supra, at page 300, where the author states:

"Allied to the condition of exclusive control in the defendant is that of absence of any action on the part of the plaintiff contributing to the accident. Its purpose, of course, is to eliminate the possibility that it was the plaintiff who was responsible. If the boiler of a locomotive explodes while the plaintiff engineer is operating it, the inference of his own negligence is at least as great as that of the defendant, and *res ipsa loquitur* will not apply until he has accounted for his own conduct."

Page 216 (cite to a book or article):

Viscusi, W. Kip, *Reforming Products Liability*, Harvard University Press, Cambridge 1991, p. 108 Table 5.6 lists the results of several studies estimating the value of life.

Page 218 (case cite):

Davis v Wyeth Laboratories, Inc. 399 F.2d 12 , 129-131 (9th Cir, 1968).

Page 218 (Math):

The Second Order of Smalls

or

Why Adverse Selection Doesn't Matter in Product Liability Law

(unpublished)

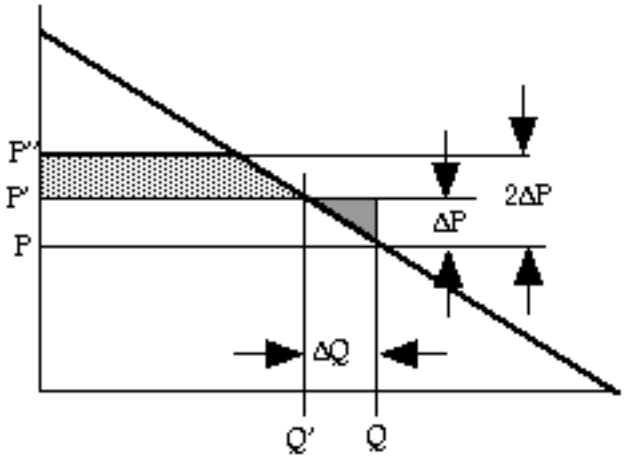
A central issue in product liability law is how the risk of defective products ought to be allocated--to the consumer (caveat emptor), to the producer (caveat venditor), according to whatever terms are mutually agreeable (freedom of contract), on the basis of some concept o#fn1f negligence or contributory negligence, or in some other way.

At least four different issues associated with economic efficiency arise in the analysis of this problem: litigation costs, risk spreading, moral hazard, and adverse selection. The purpose of this essay is to argue that the last is, for practical purposes, irrelevant in the normal context of product liability. While the effect exists, its size must be small relative to (at least) the first.

To see why, consider a product with some small probability of being defective. Assume that the consumer is unaware of the risk; he believes the probability is zero.[1] The reason he is unaware of the risk is that its expected cost is low, hence the gain to acquiring information about it is less than the cost of such information.[2] The result is that he thinks the cost of the good to him is P, the price he pays, while it is really P+ΔP, where ΔP is the additional (very small, by hypothesis) cost to him of the defect. Consider the figure below:

When the firm is not liable for the defect, consumers think the price is P, so they buy quantity Q. They are really paying P', including defects, so their consumer surplus is the triangle above P' and below the demand curve (not marked) minus the grey triangle; the latter represents the loss from buying goods that are worth a little less than their true cost: the efficiency loss due to adverse selection.

Now we make the firm liable. For simplicity, I assume that half the money paid out by the firm goes to the customers and half is eaten up in litigation costs-. Also for simplicity, I assume that the customers are fully compensated, meaning that the firm pays out twice the cost of defects, half the money goes to lawyers on the two sides, and the consumers



get compensated with the other half.

Since the firm is paying twice the cost of defects, its cost, and the price it charges, is now P"=P+2ΔP. Consumer surplus is the white triangle above P". The consumers have gained the grey triangle (i.e. are no longer buying those units) but lost the stippled quadrilateral--lost surplus due to the price increase due to litigation costs.

The ratio of the loss to the gain--the stippled area to the grey area--when you impose liability is about 2 Q'/ΔQ. But by hypothesis, P>>ΔP, Q>>ΔQ. Hence the loss due to litigation costs must be much larger than the gain due to eliminating adverse selection. In order to defeat that result, the ratio of litigation cost to amount litigated over must be less than ΔQ/2Q', which is implausible under our assumptions.

The intuition behind this analysis is that the loss from adverse selection goes as the square of the size of the misestimation of price, because it is the tip of a triangle. The cost of litigation is proportional to the misestimation, since it is proportional to the cost of product defects. So if misestimation is small, the first term is negligible relative to the second--it is, in the language of a previous generation, of the second order of smalls. It follows that adverse selection, while in principle relevant to the choice of liability rule, is in practice irrelevant in the usual setting--defects with small expected costs--where that choice is usually discussed.

1. This assumption is unrealistic but simplifies the analysis. It increases the importance of adverse selection, so results derived from it apply a fortiori to the more realistic situation where consumers know that the risk exists but not exactly how large it is.

2. I am making an assumption here about the real world situations in which these issues arise--that the cost of information about such risks is not large, and that consumers can therefor be expected to be ignorant only about those risks which impose small expected costs on them. I believe that the assumption is correct and consistent with the arguments commonly used to explain consumer ignorance in the context of defending mandatory liability--for example in Posner, R. and Landes, W. 1987. *The Economic Structure of Tort Law*. Cambridge, MA: Harvard University Press.

For some empirical evidence on the question of tort liability as insurance, see Richard L. Manning, "Is the Insurance Aspect of Producer Liability Valued by Consumers: Liability Changes and Childhood Vaccine Consumption," *Journal of Risk and Uncertainty*, Vol. 13 35-51 (1996). The author looked at the effect on the demand for immunization due to the changes in the liability environment for vaccines in the early 1980's. His conclusion was that the insurance that the courts imposed by making producers liable was worth less than its cost, as measured by demand--consumers purchased fewer immunizations (not more, as they would have if the insurance was worth more than its cost) after the relevant legal changes had occurred. His best estimate was that the change in liability reduced the number of children immunized with DPT and polio vaccines by about one million.

Page 220 (cite to a book or article):

Posner's explanation of the "Himalayan Photographer" (his example) argument and his defense of the "eggshell skull" rule can be found in *Economic Analysis of Law* fifth edition, at pp. 140-141 and 204, respectively.

Chapter 15

Page 224 (additional comments):

The idea is borrowed, with modifications to make it consensual, from Richard Connell's story "The Most Dangerous Game," which was later made into a movie.

Someone unwilling to either reject efficiency or accept the conclusion that consensual killing ought to be legal might offer a variety of arguments to show that it is not really efficient, but none, in my view, is sufficient to explain the unwillingness of most of us to accept the conclusion. For instance, he could argue that the hunt would impose unacceptable risks on innocent bystanders--but what if the hunter had his own private hunting preserve, with no innocent bystanders allowed? He could argue that the assent of the adventurers might not really be voluntary--but we could make the killing legal only when the prior contract met high standards of informed consent. He could argue, along the lines of the commoditization argument discussed in Chapter 13, that legalizing consensual killing would have a brutalizing effect on the society, leading to an increase in non-consensual killing. But we already permit violent films, big game hunting, and novels featuring sadistic killing. And besides, what if social norms gave the killer an incentive to be discreet about his activities, thus greatly reducing any external effect?

It is worth noting that a somewhat different form of consensual killing, dueling, was long an accepted (although often illegal) practice in both England and America. It has even been argued that it was an efficient practice; see "The Duel: Can These Gentlemen Be Acting Efficiently?" W.F. Schwartz, K. Baxter and D. Ryan *JLS* Volume 13(2) p. 321.

Page 226 (cite to a book or article):

Becker, Gary S., "Crime and Punishment: An Economic Approach," *Journal of Political Economy* 76 (1968) pp. 169-217.

Page 229 (Math):

See the mathematical account of optimal punishment .in the notes to the previous chapter.

Page 231 (cite to a book or article):

John Lott and Jonathan M. Karpoff, "The Reputational Penalty Firms Bear for Committing Fraud," *Journal of Law and Economics*, Vol. 36, no. 2, October 1993: 757-803. A closely related version was reprinted in *The Economics of Organized Crim*e, edited by Gianluca Fiorentini and Sam Peltzman, London: Cambridge University Press, 1995: 199-246.

John Lott, "An Attempt at Measuring the Total Monetary Penalty from Drug Convictions: The Importance of an Individual's Reputation," *Journal of Legal Studies*, Vol. 21, no. 1, January 1992: 159-187.

John Lott "The Optimal Level of Criminal Fines in the Presence of Reputation," *Managerial and Decision Economics*, invited conference volume, Vol. 17, no. 4, July-August, 1996: 363-380.p. 231.

See also the webbed working paper, Jonathan M. Karpoff, John R. Lott, Jr., and Graeme Rankine, *Environmental Violations, Legal Penalties, and Reputation Costs* (April 1999)

Page 233 (cite to a book or article):

John Lott, "Should the Wealthy Be Able to `Buy Justice'*?" Journal of Political Economy*, Vol. 95, no. 6, December 1987: 1307-1316.

Page 233 (cite to webbed material):

I discussed this issue first in "Reflections on Optimal Punishment or Should the Rich Pay Higher Fines?," *Research in Law and Economics*, (1981) and again in "Should the Characteristics of Victims and Criminals Count? *Payne v Tennessee* and Two Views of Efficient Punishment," *Boston College Law Review* XXXIV No.4, pp.731-769 (July 1993).

Page 235 (cite to a book or article):

Morris, Norval, and David J. Rothman, eds. 1995. *The Oxford history of the prison: The practice of punishment in Western society.* Oxford: Oxford University Press, provides a historical overview of the history of imprisonment.

George Fisher, "The Birth of the Prison Retold," 104 *Yale L.J.* 1235-1324 describes the early states of the shift towards rehabilitation as a goal of imprisonment in England, directed especially at young offenders.

An interesting brief outline of the history of prisons in America, apparently posted by Dr. Deborah Laufersweiler-Dwyer, including descriptions of early approaches to rehabilitation, is available online. What appears to be an identical outline is available elsewhere on the web, © 1996 Darryl Wood, so perhaps he is the original author.

An extensive bibliography on the history of imprisonment is available online; see the virtual footnotes for the link. The source appears to be the United Nations Crime and Justice Information Network, but no author is listed.

Page 235 (cite to a book or article):

For a summaries of the evidence on deterrence, see:

Isaac Ehrlich, "Crime, Punishment and the Market for Offenses," *JEP*, Winter 1996, Vol. 10, number 1.

The same volume contains two other articles on crime - one by Richard Freeman and one by John DiIulio.

Other relevant articles are:

Steve Levitt, "Using Sentence Enhancements to Distinguish between Deterrence and Incapacitation,"*Journal of Law and Economics*, v42, Part 2 April 1999, pp. 343-63 and "Why Do Increased Arrest Rates Appear to Reduce Crime: Deterrence, Incapacitation, or Measurement Error?" *Economic Inquiry*, v36, July 1998, pp. 353-72.

[My thanks to David Mustard for providing these references]

An interesting debate, relevant both to deterrence and private protection against crime, has arisen over the politically charged question of private handgun ownership. The standard argument against is that guns are used to kill people. The argument for, most prominently provided by John Lott, is that the knowledge that potential victims might be armed can be expected to have a substantial disincentive to potential criminals. Lott has prevented his views, along with very extensive statistical work supporting the conclusions, in an article (with David Mustard) and a book. I have a fairly extensive webbed collection of material and links relevant to the debate on my site.

Page 235 (cite to webbed material):

David Friedman and William Sjostrom, "Hanged for a Sheep-The Economics of Marginal Deterrence," *Journal of Legal Studies*, June, 1993.

Page 238 (additional comments):

Attentive readers may wonder how imprisonment can do a better job than execution of incapacitating a criminal. The explanation is that imprisonment will be imposed with higher probability. Imprisoning five criminals for ten years each my provide more incapacitation than executing one criminal, but the same amount of deterrence--especially if the crime we are concerned with is one committed primarily by younger men.

Page 240 (case cite):

In *Bennis v. Michigan*, 116 S. Ct. 994 (1996), the Supreme Court held that, when a husband was caught using a car jointly owned with his wife to pick up a prostitute, it was legitimate for the entire care to forfeit--including the wife's share. In the words of Chief Justice Rehnquist:

"But a long and unbroken line of cases holds that an owner's interest in property may be forfeited by reason of the use to which the property is put even though the owner did not know that it was to be put to such use."

In one case in California, law officers shot and killed the owner of a valuable estate when he interrupted their search of his house. According to a report by the local District Attorney, the search had been preceded by research not into the activities of the victim but the value of his property. See Ventura County District Attorney Michael Bradbury's Report on the Death of Donald Scott (webbed).

Page 240 (cite to a book or article):

Benson, Bruce L.; Rasmussen, David W. and Sollars, David L.. "Police bureaucracies, their incentives, and the war on drugs." *Public Choice* 83 (1995): 21-45.

Page 240 (cite to a book or article):

"At a steady pace, sales and shipments of new airplanes by general aviation manufacturers declined from a high of 17,811 units in 1978 to 1,143 units in 1988."(Martin, Robert. "General Aviation Manufacturing: An Industry under Siege." in *The Liability Maze*, edited by Peter W. Huber and Robert E. Litan. Brookings Institute, Washington D.C. 1991) The author argues that the decline was due to greatly increased costs of liability and liability litigation; another author in the same volume concludes that there is no evidence of any corresponding increase in safety.

Page 241 (cite to a book or article):

W. Arens, *The Man-eating Myth: Anthropology and Anthropophagy*. Oxford University Press, Oxford, 1979, provides an entertaining tour through the literature on human cannibalism. The author concludes that the widespread belief that it has been a normal practice in some cultures tells us more about the credulity of anthropologists than about the practices of primitive peoples. He argues that cannibalism arises in the anthropological literature when group A ascribes it to group B in order to show how horrible they are. There seems to be a little evidence, from work done after his book, to show the existence of ritual cannibalism as a rare but actual practice--but overall, Arens is pretty convincing.

An interesting discussion of cannibalism and the law is A. Brian Simpson, *Cannibalism and the Common Law*. It deals with a case where starving sailors ate one of their number, in accordance with what they believed to be customary and accepted behavior in such circumstances, only to end up in jail when, after being rescued, they mentioned what they had done. The author argues that the legal authorities used the case to establish a legal principle they thought important--at the cost of considerable injustice to the defendants.

Page 241 (cite to webbed material):

The Department of Justice report on the Ruby Ridge case is available online.

Page 242 (cite to a book or article):

Cohen, Lloyd, "Increasing the Supply of Transplant Organs: The Virtues of a Futures Market," *George Washington Law Review*, November 1989.

Page 242 (additional comments):

So far as I can determine, the medieval chastity belt is a myth. At least, I have been able to find no references to such a device in medieval literature--and, given the amount of bawdy literature written in the middle ages and early renaissance, it is hard to believe that if such a device had been familiar to the authors it would not have made an appearance. A brief summary of similar conclusions by more qualified searchers is available online.

The modern chastity belt, on the other hand, is far from mythical, as I discovered when I did a web search for "chastity belt."

My comment that rape may be the most common serious crime is hard to check empirically, because of the way crime statistics are classified--as well as problems with reporting. The one crime that is obviously more serious is murder--and the U.S. Murder rate (measured by offenses known to the police), as of 1995, was about one fifth the rate for forcible rape. The real difference is surely greater than that, since murder is generally considered to be one of the best reported of all crimes.

The reported rate for aggravated assault is about ten times as high as for rape. But while some assaults may be just as serious, in terms of the effect on the victim, as rape, my (poorly informed) guess is that assaults that serious probably would make up less than a tenth of the total.

Page 243 (cite to webbed material):

The passage is contained in Adam Smith, *The Wealth of Nations*, Book 5, chapter 1, part 2, available online.

Chapter 16

Page 245 (additional comments):

"Profit" has a variety of different meanings in different contexts. Economists use "economic profit" to mean income received by a firm (or individual) in excess of all costs of production. In this context, the cost of inputs you own, including your own labor and capital, are included in the calculation.

Suppose, for example, my firm has capital assets worth ten million dollars, sells its output for three million dollars a year, and pays two million dollars a year for inputs--raw material, labor, rent, and the like. What is its economic profit?

The obvious--and wrong--answer is that the profit is revenue minus cost, equal to one million dollars. In calculating economic profit, the use of the firm's capital assets also counts as a cost, since if the firm was not using them it could sell them to someone else and collect interest on their value. If the market interest rate is (say) ten percent, then the

cost to the firm of using its ten million dollars of capital assets is a million dollars a year, making economic profit zero.

Similarly, consider an owner operated firm--say a doctor's office. In calculating the firm's economic profit, you must subtract out the value of the owner's own labor--what he could get for it if he did the same work for someone else, assuming that that is his next best alternative.

It follows that if a firm's economic profit is positive, it must be making more than the normal market return on its capital--which is a reason why other firms might consider going into the same business.

In other contexts, "profit" has other meanings. Just to confuse things, economists often use "profit" (but not "economic profit") to mean return on capital--as opposed to wages (return on labor) and rent (return on land). In that sense, the firm described above is making a profit of a million dollars a year on ten million dollars of capital.

Page 245 (cite to webbed material):

A more detailed explanation of the inefficiency of a single price monopoly can be found in Chapter 16 of my (webbed) *Price Theory* .

Page 247 (cite to webbed material):

An explanation of the sources of monopoly, including natural monopoly, can be found in Chapter 10 of my (webbed) *Price Theory* .

Page 250 (case cite):

For a predatory pricing case, see *Brooke Group v Brown & Williamson Tobacco*, 509 U.S. 209 (1993). the plaintiff alleged that the defendant's volume discounts to wholesalers on generic cigarettes amounted to predatory pricing. The court found for the defendant as a matter of law.

The current legal situation is that, to establish predatory pricing under section 2a of the Clayton act or section 2 of the Sherman act, you must show both that prices are below an appropriate measure of costs and that the firm had a reasonable prospect (or, under the Sherman act, a dangerous probability) of recouping the losses due to below cost sales.

Page 250 (cite to a book or article):

John S. McGee, "Predatory Price Cutting: The Standard Oil (NJ) Case," *Journal of Law and Economics*, vol. 2 (October 1958), p. 137

Page 251 (cite to a book or article):

For an interesting discussion of the history of railroad regulation, see Gabrielle Kolko, *Railroads and Regulation*.

Page 252 (cite to a book or article):

Stigler, George J. and Friedland, Claire (1962), 'What Can Regulators Regulate? The Case ofElectricity', 5 *Journal of Law and Economics*, 61-77.

Page 254 (additional comments):

[From a correspondent, commenting on an earlier draft of this passage--slightly edited]

The Supreme Court in *Dr. Miles Medical Co. v. John D. Parks & Sons Co*., 220 U.S. 373 (1911) made retail price maintainance a per se violation, which it remains to this day. The Congress passed Miller-Tydings in 1937 giving the states the option to legalize RPM within their boundaries. Most did. By 1974, state courts and legislatures had repealed these enabling statues in a number of states, so that only 22 remained RPM jurisdictions. The Consumer Goods Pricing Act repealed the ability of the states to legalize RPM, and so the states are now out of the mix entirely. Thus RPM is currently per se illegal everywhere, and in very wide use.

The reason is that RPM is a violation of section 1 of the Sherman Act, and the courts have been literal in applying the contracts, combinations, or conspiracies requirement, doing violence to the economist's understanding of contract in the process. Take your services example. You sell me a product for resale to consumers. I complain about the discounter down the street, saying it's him or me. You cut him. Why? Because you are paying me a higher margin to cover the services I provide, right? So is that not a contract? The S.Ct. says that if we don't agree on price, end of story -- no violation.

In *Simpson v. Union Oil Co*., 377 U.S. 13 13 (1964) the Supreme Court extended the prohibition on resale price maintenance to strike down a retail-dealer consignment agreement.

In *State Oil Company v Khan*, 522 U.S. 3 (1997), the court distinguished Dr. Miles; vertical price restraints are now examined under the rule of reason.

For a somewhat different explanation of retail price maintainance from that given in the text, see Deneckere, Raymond; Marvel, Howard P; Peck, James "Demand Uncertainty and Price Maintenance: Mark-downs as Destructive Competition" *AER* Volume 87, Number 4 pp. 619.

Page 255 (case cite):

International Business Machines v. United States 298 U.S. 131 (1936)

Page 255 (additional comments):

It may occur to thoughtful readers that the explanation (not original with me) that I have offered for the existence of retail price maintenance agreements raises a further puzzle. Why don't retailers charge for presale services? Why is there no audio showroom, providing trial and consultation for $20/hour and then offering customers the opportunity to buy what they want at discount prices?

I do not have a good answer to that question. I think it likely, however, that the situation may be changing in the near future. Internet sellers of a variety of goods, most notably cars, are currently cutting into the market of conventional retailers. If I can buy my car online at a discount price, why shouldn't I first do my comparison shopping at an ordinary dealer, then refuse to buy unless he matches that price?

One response I hope to see is the development of firms that stock one each of a considerable range of automobiles and offer consumers test drives, access to a well stocked collection of reference material, and consultation, at a per hour price. That way I could compare four different brands of minivan without having to go to four different dealers.

Page 256 (case cite):

United Shoe Machinery Corp. v. United States, 258 U.S. 451 , 457, 458 S., 42 S.Ct. 363

Page 257 (case cite):

Henry v. A. B. Dick Co., Supreme Court of the United States, 1912.224 U.S. 1, 32 S.Ct. 364, 56 L.Ed. 645. The tying agreement applied to the stencil paper, ink, and supplies used with a patented "Rotary Mimeograph" sold by Dicke. It was a patent case, not an anti-trust case. Sidney Henry had sold ink to be used with a Dicke machine in knowing violation of the tying agreement. Dicke sued him for contributory infringement of their patent on the machine. The defendant argued that the tying agreement was a misuse of their patent. Dicke won. More recent decisions have been less friendly to their argument. For the modern law, see *Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518, 92 S.Ct. 1700, 32 L.Ed.2d 273 (1972).

An interesting railroad tying case is *Northern Pacific Railway v. U.S.*, 356 U.S. 1 (1958). The railroad had sold land (obtained as government land grants) on the condition that the buyer use the railroad to ship if its rates were no higher than those of its competitors. The court found the condition unenforceable.

For a more modern case, see *Jefferson Parish Hospital District No. 2 v. Hyde*, 466 U.S. 2 (1984), where the court applied a rule of reason analysis to tying arrangements. Interestingly, Justice O'Conner cited Bork, *The Antitrust Pardox* pp. 372-374, which gives the argument offered here for why a monopolist cannot ordinarily increase profits by using tying to turn one monopoly into two.

In *U.S. v. Jerrold Electronics Corp*., 187 F. Supp. 545 (E.D. Pa. 1960), the company, a pioneer in the community television antenna industry, both sold an antenna and required

buyers to secure servicing only from the company. The court approved, noting that without such tying the new product might fail and the market for it vanish.

A more modern case that correctly analyzes price discrimination *is ProCD, Inc. v. Zeidenberg*, 86 F.3d 1447,1449 (7th Cir. 1996):

"If ProCD had to recover all of its costs and make a profit by charging a single price--that is, if it could not charge more to commercial users than to the general public--it would have to raise the price substantially over $150. The ensuing reduction in sales would harm consumers who value the information at, say, $200. They get consumer surplus of $50 under the current arrangement but would cease to buy if the price rose substantially. If because of high elasticity of demand in the consumer segment of the market the only way to make a profit turned out to be a price attractive to commercial users alone, then all consumers would lose out--and so would the commercial clients, who would have to pay more for the listings be- cause ProCD could not obtain any contribution toward costs from the consumer market." (Judge Frank Easterbrook in ProCD)

The issue of price discrimination is discussed in much more detail in *Price Theory* .

Page 257 (cite to a book or article):

"Department of Justice Merger Guidelines, 1984, Section 5: Horizontal Effect from Non-Horizontal Mergers" lists the principal theories under which the Department is likely to challenge non-horizontal mergers. Horizontal mergers are analyzed under the U.S. Department of Justice and FTC Joint Horizontal Merger Guidelines, 1992.

Page 260 (cite to webbed material):

S. J. Liebowitz and Stephen E. Margolis, "The Fable Of The Keys," *Journal of Law & Economics* vol. XXXIII (April 1990). I discovered that the authors had made the article available online after Law's Order went to press, which is why the icon in the book is for a cite rather than a webbed cite.

Page 261 (cite to webbed material):

An interesting discussion of issues of network externalities and path dependence is available online; it includes two apparently unpublished papers by Paul David, one of the leading proponents of the theory, and posts by (among others) both Liebowitz and Margolis.

Much additional material on the controversy can be found online at a page maintained by Liebowitz and Margolis.

Page 262 (cite to webbed material):A brief discussion of some issues relevant to the Microsoft case by Stanley Liebowitz is available online. A much longer discussion can be found in his book, with Steve Margolis*, Winners, Losers, and Microsoft: Competition and Antitrust in High Technology.* Liebowitz and Margolis have been the leading critics

of the "network externality" line of argument. They provide some information on the book online.

Chapter 17

Page 264 (cite to webbed material):

The description of Icelandic institutions is mostly based on an old article of mine, which provides considerably more detail. For more information on saga period Iceland, by a more expert author, see the books of Jesse Byock (Jesse L. Byock, *Feud in the Icelandic Saga* (University of California Press: 1993), *Medieval Iceland*: *Society, Sagas, and Power* (University of California Press: 1990)). William Miller has also written on the subject, from a legal perspective very different from *mine (Bloodtaking and Peacemaking: Feud, Law, and Society in Saga Iceland,* (University of Chicago Press: Chicago: 1990).)

Page 265 (cite to a book or article):

"But if you are forced to give ground, you had better retreat in this direction, for I shall have my men drawn up here in battle array ready to come to your help. If on the other hand your opponents retreat, I expect they will try to reach the natural stronghold of Almanna Gorge . . . I shall take it upon myself to bar their way to this vantage ground with my men, but we shall not pursue them if they retreat north or south along the river. And as soon as I estimate that you have killed off as many as you can afford to pay compensation for without exile or loss of your chieftaincies, I shall intervene with all my men to stop the fighting; and you must then obey my orders, if I do all this for you." Magnus Magnusson & Hermann Palsson trans., *Njal's Saga* (Penguin ed. 1960), pp. 296-97. A similar passage occurs at 162-63.

The entire saga is available online, in an earlier (hence now public domain) translation.

Page 266 (additional comments):

"It was like a chose in action (a right to sue), and choses in action were inalienable until modern times." Dukeminier and Krier, *Property*, p. 245.

While our legal system does not make tort claims freely transferable, it does permit the effective transfer in some circumstances. Thus many tort claims are transferable to insurance companies through the doctrine of subrogation. You might have a disability and medical policy that provided that in the event of an accident the insurance company would pay you off and be subrogated to your tort rights, that is, receive by assignment the right to sue in your stead (and in your name, with you required by the policy to cooperate with the insurance company).

Other special cases include a waiver, by which you sell the claim to the potential tortfeasor, and a contingency fee arrangement, under which your attorney accepts the right to collect part of any damages awarded as his fee.

A contingency fee is not a complete transfer of your rights as a tort victim. Some of the money still goes to you--you don't have the option of transferring the whole claim in exchange for a fixed payment. This would count as champerty under current law--a term that, at an earlier date, would have covered contingency fees as well. And you still retain other rights with regard to the case--your attorney does not have a blank check to make all decisions as if he were the plaintiff.

[If you think you have seen this before, you are probably right--most of it is copied from a note to Chapter 9. If anyone has a pointer to a reasonably detailed discussion of to what degree claims are and are not transferable under modern law, I would be very interested to see it.]

Page 267 (cite to webbed material):

This part of the chapter is also drawn from an old article of mine: "Making Sense of English Law Enforcement in the Eighteenth Century," *The University of Chicago Law School Roundtable* Volume 2 Nbr 2 (Spring/Summer 1995) 475-505. For a critique of that article, see George Fisher, "Making Sense of English Law Enforcement in the Eighteenth Century: A Response," *The University of Chicago Law School Roundtable* Volume 2 Nbr 2 (Spring/Summer 1995) pp. 507-516.

Page 268 (cite to webbed material):

For a description and economic analysis of a more fully private system of criminal enforcement for a modern society, see my "Efficient Institutions for the Private Enforcement of Law." *Journal of Legal Studies*, June (1984).

Page 270 (cite to a book or article):

John Langbein, "The Historical Origins of the Sanction of Imprisonment for Serious Crime," *JLS* 5 (1976) 35-60. See also Lionel Casson, *Ships and Seamanship in the Ancient World*, Princeton University Press: Princeton, N.J., 1971. The Casson book is a delight--everything you ever wanted to know about naval matters in classical antiquity.

Page 274 (cite to webbed material):

Bruce Sterling's *The Hacker Crackdown* is available online.

Page 275 (cite to webbed material):

This part of the chapter is largely drawn from my "Less Law than Meets the Eye," a review of *Order Without Law*, by Robert Ellickson, *The Michigan Law Review* vol. 90 no. 6, (May 1992) pp.1444-1452.

Page 276 (cite to webbed material):

A fascinating discussion of the norms of the Open Source Software community is provided by Eric Raymond in "Homesteading the Noosphere." For a more extensive discussion of open software, see his webpage and his recent book, *The Cathedral and the Bazaar: Musings on Linux and Open Source by an Accidental Revolutionary*.

Page 278 (cite to a book or article):

A chilling fictional depiction of a society that maintains the form but not the substance of the rule of law (with environmentalists in charge) is provided in Larry Niven and Jerry Pournelle, *Fallen Angels.*

Page 278 (cite to webbed material):

For a much more detailed discussion of the Icelandic system and the forces that led to its collapse, see "Ordered Anarchy, State, And Rent-seeking: The Icelandic Commonwealth, 930-1262" by Birgir T. Runolfsson Solvason. (webbed)

Page 279 (cite to a book or article):

For an interesting discussion of the rise of the prision in the late 18th century, see George Fisher, The Birth of the Prison Retold, 104 Yale *L.J.* 1235-1324. The author argues that the prison was intended to rehabilitate, and was targetted especially at youthful offenders, on the theory that they were taking the first steps towards a life of crime, and could be redirected.

Chapter 18

Page 282 (additional comments):

How might the "rebundling" approach to mass torts work in a legal system that treated inchoate tort claims as transferable property? Firms in the wholesale tort business buy up large bundles of claims--say all future claims for damages of less than a thousand dollars--from millions of individuals. When a particular tort issue, such as asbestos or silicon breast implants, looks as though it might provide plausible grounds for a mass tort suit, each wholesale firms rebundles accordingly, extracting from the claims it owns all claims for damages due to that particular tort and creating a new bundle containing all of those claims. A law firm then purchases such bundles from the wholesale tort firms, ending up with ownership of (say) the asbestos claims of forty million people. Now the law firm litigates the claims. It's objective is, and should be, to get as much in damages (or out of court settlements) as it can. Since the law firm is both the attorney and the client, the usual class action problem of conflict of interest between the two (it is in the attorney's interest to settle for terms that give him as much as possible, however little the settlement gives the victims) vanishes.

How does this system affect the victims? To begin with, it gives someone an incentive to prosecute their claims, hence deters the tort, which, in my view, is the major purpose of tort damages. Furthermore, the victims receive compensation, in the form of the initial payment. Given a competitive market for purchasing bundles of claims, the market price received by an individual for his bundle of claims should equal the expected value of damages collected (from all of the claims in the bundle) net of the costs of the associated transactions and litigation.

Such a system does not provide insurance to the victims, however, since the price they receive for their claims represents the ex ante value of expected injury as it will be measured by the court system ex post (net of various costs). At the point when my claims are purchased, the purchaser doesn't know that my claim for asbestos injury is the valuable part of the bundle, so the price I get does not depend on whether or not I get asbestosis.

If my claim for asbestosis damage is more than a thousand dollars, however, it wouldn't be included in the bundle described above. More generally, one reason why firms would choose to purchase bundles consisting of all small claims is that for small claims insurance isn't important--for reasons discussed in Chapter 6, it isn't normally worth insuring against small losses. A second reason is that a single small claim is unlikely to be worth the cost of litigating.

I offer a different scheme for reducing the cost of litigating mass torts in "More Justice for Less Money: A Step Beyond *Cimino*.," *Journal of Law and Economics*, April 1996.

The most serious objection that can be raised against both proposals is that we already have too much mass tort litigation, most of which costs far more than any benefit in deterrence is worth and much of which--the silicone implant cases, for example--may be based entirely on junk science, and thus produces not a benefit (by deterring harmful activities) but a cost (by deterring productive activities). For some evidence, see:

David E. Bernstein, "The Breast Implant Fiasco," *California Law Review* volume 87, Number 2 (March 1999) pp. 457-510.

Marcia Angell, *Science on Trial: The Clash of Medical Evidence and the Law in the Breast Implant Case*, New York: W.W. Norton &Co. 1996.

My response is that, if that is the case, the proper solution is not to use a clumsy and inefficient set of legal institutions (class action suits) to litigate such cases but to modify the poorly designed legal rules that create the incentive for perverse litigation. Obvious ways of doing so are to eliminate or sharply restrict punitive damages, to adopt the "English Rule" making a losing tort plaintiff responsible for costs he has imposed on the prevailing defendant, to take the requirement of foreseeability more seriously than some modern courts now do, and, most important of all, to return to a regime of freedom of contract, thus making it possible for buyers and sellers to opt out of the current liability regime via waivers (or guarantees).

Page 282 (additional comments):

One might argue that the distinction between a public nuisance (enforced by criminal law originally in England) and a private nuisance was related to incentive to enforce along just these lines. A public nuisance typically produced a dispersed injury, so no single victim had an adequate incentive to sue.

"The difference between a private nuisance and a public nuisance is generally one of degree. A private nuisance is one affecting a single individual or a definite small number of persons in the enjoyment of private rights not common to the public. ... To constitute a public nuisance, the nuisance must affect a considerable number of people or an entire community or neighborhood."

City of Phoenix v. Johnson, 51 Ariz. 115, 75 P.2d 30 (1938).

Where the injury is slight, the remedy for minor inconveniences lies in an action for damages rather than in one for an injunction. *Kubby v. Hammond*, 68 Ariz. 17 , 198 P.2d 134 (1948). Moreover, some courts have held, in the "balancing of conveniences" cases, that damages may be the sole remedy. See *Boomer v. Atlantic Cement Co*."

Cameron, *Vice Chief Justice, in Spur Industries, Inc. v. Del E. Webb Development Co.*, Supreme Court of Arizona, In Banc (1972) 108 Ariz. 178, 494 P.2d 700. This is the case that I earlier cited as an example of incomplete privilege.

Page 283 (cite to a book or article):

Landes and Posner made their argument in "The Private Enforcement of Law," *4 J. Legal Stud.* 1 (1975). See also Gary S. Becker & George J. Stigler, "Law Enforcement, Malfeasance, and Compensation of Enforcers," 3 *J. Legal Stud*. 1 (1974), to which they were responding.

Page 283 (cite to webbed material):

David Friedman, "Efficient Institutions for the Private Enforcement of Law.*" Journal of Legal Studies*, June (1984).

Page 287 (additional comments):

The Philadelphia scandal emerged in 1995. See Don Terry, "Philadelphia shaken by criminal police officers," *New York Times*, August 28, 1995.

Page 288 (additional comments):

The assumption underlying my argument that private deterrence gives enforcers an incentive to preferentially convict guilty people is that potential criminals are reasonably well informed about the behavior of prosecutors. While they may not always know if a particular convicted defendant was guilty, they know enough about the behavior of prosecutors, whether government officials, prosecution association attorneys, or private

prosecution firms in some future system of privately enforced criminal law, to have a reasonable idea of how committing a crime affects the risk of being convicted for it. So if prosecutors routinely grab the nearest vagrant and railroad him into a criminal conviction, their behavior will deter vagrants from wandering near high crime areas but will not deter non-vagrants from committing crimes.

The assumption underlying my argument that public enforcers do not have an incentive to preferentially convict guilty people is that they are rewarded for successful convictions--since if they were not, they would have no incentive to convict anyone. If the reward comes through the political system, as a result of voters' perception of the job the prosecutor is doing, then it will depend on the information available to the voters--who are likely to be much worse informed about the workings of the criminal prosecution system than the criminals are. If the reward comes as a result of gains to the enforcement system from convictions--galley slaves in the 17th century, forfeited property in the 20th century--then it does not depend on whether or not the convicted party was guilty.

One possible counter argument is that convicting innocent people will not reduce the crime rate, at least if criminals are well informed, and the voters will judge the prosecutor by the crime rate. My own view is that in practice that does not happen, because voters (correctly) believe that the crime rate is controlled by many things other than the behavior of prosecutors. Indeed, a high crime rate might be taken as a signal that more resources are needed to fight crime, in which case doing a bad job of deterring crime would result in an increase in the income of public enforcers.

Page 289 (cite to webbed material):

For a discussion of some of these issues, see my "Beyond the Tort/Crime Distinction," *Boston University Law Review*.

Dan Klerman has done some very interesting work on private vs public enforcement in medieval England, but I do not currently have a cite to a published version.

Page 290 (cite to a book or article):

There is a webbed summary of the literature on fee shifting--the English vs American rule--in the *Elgar Encyclopedia of Law and Economics.*

Page 291 (additional comments):

England has jury trials for civil cases charging defamation or fraud, but not for civil cases in general--unlike the U.S.

Page 295 (Math):

The following is an unpublished article that provides a more extensive and formal treatment of why, from the standpoint of victim's incentives, burglary should be treated as a tort and auto accidents as crimes.

Why Burglary Should be a Tort and Collision a Crime

(unpublished article)

If someone breaks your arm you call a cop; if he breaks a contract with you you call a lawyer. More generally, our legal system provide two different sets of rules for dealing with acts by which one individual harms another--tort law and criminal law. Both are similar in general outlines: someone attempts to demonstrate that a wrong has been done, and if he succeeds bad things happen to the offender, a possibility which makes the commission of wrongs less attractive. But they differ very much in the details. A tort claim belongs to the victim--it is he who prosecutes it, collects the damage claim if he wins, and has the legal power to settle. A criminal case belongs to the state.

This dual system for prosecuting wrongs raises a number of interesting questions. The first is whether there is any good reason to have two separate systems of rules; whether, for example, a legal system in which burglars and murderers were sued instead of arrested would be workable.[1] The second is why the particular sets of rules go together in the way they do--why, for example, a system in which offenses are privately prosecuted is also one in which the victim collects the fine and in which guilt is proved by a preponderance of the evidence.[2] The third, and the question which which this note is concerned, is how offenses ought to be sorted between the two systems: what should be a tort and what should be a crime.

All three questions are complicated by the fact that legal rules affect behavior on many margins. They affect the incentives to commit offenses, the incentives to prosecute offenses, and the incentives to prevent offenses. It is possible, even likely, that for some offenses tort law will provide better incentives than criminal law on one of those margins and worse incentives on another. If so, the question of what ought to be a tort and what ought to be a crime will be ambiguous, at least until we develop a theory good enough to predict not only the sign but also the size of such effects.

My purpose here is simple. I wish to take one of the margins and argue that, judged by the incentives provided by the alternative legal systems on that margin, our legal rules are backwards. Things we treat as crimes, such as burglary, ought to be torts; things we treat as torts, such as auto accidents, ought to be crimes.

The incentive I have chosen to examine is the incentive that potential victims have to prevent offenses. Seen from that perspective, there is a simple and striking difference between tort law and criminal law. The victim of a tort suffers an injury but he also obtains an asset--a claim for damages against the offender. The victim of a crime suffers an injury but obtains no corresponding asset since the fine for the offense, if any, will go to the state, not to him.[3] It follows that one effect of treating an offense as a tort instead of a crime is to reduce the net damage suffered by the victim, and thus his incentive to prevent the offense.

Reducing the incentive to prevent the offense is not necessarily a bad thing; here as elsewhere, what we want is the right incentive, neither too much nor too little. The ideal legal system, seen from this standpoint, is one in which the potential victim receives the net social benefit produced by his defensive precautions. The question for any particular class of offense is whether the reduction in incentive provided by tort law moves the potential victim towards or away from the efficient level of precaution.

A World of Costless Enforcement

In trying to answer that question, it is useful to start with a model of law enforcement in which catching and punishing offenders is costless. All offenders are detected, and none of them are judgement proof. Within this simplified framework, what is the right incentive, and what system gives it?

Start with automobile accidents. For simplicity, consider accidents in which a car runs over a pedestrian and only the pedestrian is injured. We may attempt to deter such accidents either with a tort rule, in which the driver of the automobile is liable to the victim for the damage done, or with a criminal rule, in which the driver pays a fine but the victim does not receive it.

From the standpoint of the driver, the two rules (with the same penalty) generate the same incentive. Any reduction in the probability of an accident due to the drivers production reduces his liability by an amount equal to the savings in net social cost. What about the pedestrian?

Under the tort rule, the pedestrian suffers no cost from being run over, since his damages are fully compensated by the driver.[4] It follows that the pedestrian has no incentive to take precautions. Under the criminal rule, on the other hand, the pedestrian pays the full cost of the accident. It follows that he has the efficient incentive to take precautions to prevent it.[5] It follows that, from the standpoint of the incentive for victim precautions, such offenses should be crimes, not torts.

Generalizing beyond the simplified example in which only one party suffers a loss, the efficient rule is that each party bears his own loss and pays a fine equal to the loss that the accident imposes on the other party. Thus each bears the full cost of the accident and has an incentive to take any cost justified precautions to reduce its probability.

Consider next the offense of burglary--again in a world of costless enforcement. The legal system sets the penalty for burglary equal to the damage done--the value of what is stolen. Any burglar willing to pay that price commits an offense--and should. The system generates only efficient burglaries--those where the gain to the offender is greater than the loss to the victim. The textbook example, due to Judge Posner, is the hunter, lost and starving, who comes across a locked cabin in the woods, breaks in, feeds himself, and telephones for help.

In this world, a homeowner who puts a lock on his door is wasting his own money and the burglars time. He is better off leaving the door open and (costlessly) collecting the value of whatever goes out. The optimal level of precaution to prevent burglary is the

same as the optimal level of precaution for a supermarket to take in preventing its customers from buying its vegetables--zero.

Under a tort rule, that is the level of precaution that the victim will take. He knows he will be fully reimbursed for whatever he loses, so has no incentive to spend resources preventing burglary. Under a criminal rule, on the other hand, the criminal takes from the victim but repays the state, so the victim has an incentive to prevent the burglary. Hence, at least in the simplified world of costless enforcement, and considering only the incentive of the victim to defend himself, burglary ought to be a tort.

A Formal Treatment

To see the underlying difference between an auto accident and a burglary, it is useful to express both in the same form. We have two parties, each of whom can spend resources affecting the probability that an event--an auto accident or a successful burglary--will occur. If we define E_1 as expenditure by party 1 and E_2 by party 2, and $C_{1,2}$ similarly as the cost to each party of the event occuring, p (E_1,E_2) as the probability of the event, we have, absent any legal rules:

Net Cost to party 1 absent legal rule $=E_1+C_1p(E_1,E_2)$

Net Cost to party 2 absent legal rule $=E_2+C_2p(E_1,E_2)$

We wish the efficient level of precautions, the level that minimizes the summed cost:

Net cost to both parties $= E_1+ E_2+ [C_1+C_2]p(E_1,E_2)$

Giving us the first order marginal conditions:

$1+ [C_1+C_2]p_1(E_1,E_2)=0$ (Equation 1a)

$1+ [C_1+C_2]p_2(E_1,E_2)$ (Equation 1b)

Party 1 controls E_1, party 2 controls E_2, and each wishes to minimize his net cost. We generate the efficient marginal conditions 1a,b by a legal rule which, if the event occurs imposes a fine of C_2 on party 1 and a fine of C_1 on party 2, generating new net costs:

Net Cost to party 1 absent legal rule $=E_1+C_1p(E_1,E_2)$

Net Cost to party 1 with optimal rule $=E_1+ [C_1+C_2] p(E_1,E_2)$

Net Cost to party 2 with optimal rule $=E_2+ [C_1+C_2] p(E_1,E_2)$

The levels of $E_{1,2}$ that minimize the new net costs also satisfy Eqns 1a,b.

Seen from this perspective, all three of our cases are the same. In the auto/pedestrian case, $C_1=0$, $C_2>0$, so we get the efficient outcome by fining the driver for the damage done to the pedestrian. In the more general case of mutual damage, for instance an auto/auto collision, $C_{1,2}>0$ and we fine both drivers when an accident occurs. In the burglary case, with party 1 the victim and party 2 the burglar, $C_1>0$, $C_2<0$, since the burglar receives a benefit from a successful burglary. So the efficient rule punishes the burglar with a fine equal to the value of the amount stolen and rewards the victim with a subsidy also equal to the amount stolen. In other words, the efficient rule is a damage payment rather than a fine.

The attentive reader may wonder why I assume that the benefit to the burglar is equal to the loss to the victim--after all, one of the reasons we ban theft is that goods are usually worth more to their present owner than to the thief. But I am considering an efficient system with costless punishment. Since the burglar is paying a fine equal to the victims cost, he will not steal unless the good is worth at least that much to him.

There remains the possibility that, as in the starving hunter example, the gain to the burglar may be larger than the loss to the victim. To adequately take account of this possibility, one requires tort law plus a subsidy to the victim representing the average gain to the burglar from stealing, net of the fine he pays. The simple tort rule gives the correct answer only for the marginal burglar, and is thus correct at most for precautions that, like a small increase in punishment, deter only marginal burglars. Even in that case, the analysis is complicated by the possibility that a precaution that deters marginal burglars raises the cost to all burglars, and thus imposes an external cost on the undeterred burglaries.

A World With Enforcement Costs

The analysis becomes more complicated in a world with enforcement costs--costs of catching and punishing[6] an offender. In such a world, precautions by the victim of burglary produce benefits as well as costs. If the optimal effective punishment is less than damage done--if, in other words, we are permitting some inefficient offenses because deterring them costs more than it is worth[7]--then precautions prevent some inefficient

offenses. In addition, precautions reduce the number of offenses and thus the cost of apprehending and punishing offenders.

It remains true that preventing burglaries imposes a cost on burglars which an efficient system of incentives ought to take into account. It could do so by awarding victims damages representing the value to the offender of his offense net of the cost of apprehending and punishing him. That, roughly speaking, is what a tort system does, since the victim must pay his own litigation fees and bears the risk that the defendant may be judgement proof.

Readers interested in a more complete analysis of this problem may either await a later revision of this essay or look at an earlier article[8] in which I proposed and analyzed a system of legal rules designed to provide private enforcement of what is currently criminal law--a sort of expanded tort system. In that system, victims of crimes were able to sell their claim against the offender for a price representing the amount of his punishment net of the cost of catching and punishing him. I argued there that, if one assumed away a variety of potential sources of market failure affecting the level of precaution taken by potential victims,[9] that set of institutions leads to an optimal level of precaution.

[1]I discuss a real world system of this sort in some detail in "Private Creation and Enforcement of Law : A Historical Case." Journal of Legal Studies, (March 1979), pp. 399-415.

[2]For an example of a real world system which in most ways resembled our criminal system but in which offenses were privately prosecuted, see D. Friedman, "Making Sense of English Law Enforcement in the Eighteenth Century," The University of Chicago Law School Roundtable (Spring/Summer 1995).

[3]This is a slight oversimplification. In many cases, the victim of a crime is also the chief witness. In such cases, a de facto out of court settlement becomes possible; the defendant compensates the victim and the victim stops cooperating with the police. One plausible explanation of why the tort system gives the claim to the victim instead of, say, auctioning it off to the highest bidder is that the victim, because he is already the chief witness, is also the person with the highest value for the claim. A second reason why he might be expected to have the highest value is because his incentives include both collecting a damage payment and establishing a reputation to deter future offenders.

[4]One of the odd features of a system of costless enforcement is that all injuries can be compensated. For a more realistic analysis of the problem of how to treat death and bodily injury in a system of tort law, see D. Friedman, "What is Fair Compensation for Death or Injury?" *International Review of Law and Economics*, 2, (1982), pp. 81-93.

[5]I believe that this point was first noted in an old article by Earl Thompson, but I do not yet have the cite.

[6]Note that punishment costs include costs to the offender. A costlessly collected fine has punishment cost of zero, a costlessly imposed execution has punishment cost equal to amount of punishment equal to one life, and imprisonment has punishment cost greater

than amount of punishment--the cost of imprisonment to the offender plus the cost to others of maintaining the prison.

[7]For the formal analysis of the problem of optimal enforcement, see Friedman, D. "Should the Characteristics of Victims and Criminals Count? *Payne v Tennessee* and Two Views of Efficient Punishment," *Boston College Law Review* XXXIV No.4, pp.731-769 (July 1993), "An Economic Explanation of Punitive Damages," *Alabama Law Review*, Volume 40 Number 3, Spring 1989, pp. 1125-1142, "Reflections on Optimal Punishment or Should the Rich Pay Higher Fines?," *Research in Law and Economics*, (1981). All three articles contain explanations of essentially the same analysis. The conclusion is that the optimal effective punishment (the certainty equivalent of the punishment lottery imposed on the offender) is equal to the damage done by the offence minus the marginal cost of deterrence--the increase in apprehension, litigation, and punishment cost required to deter one more offense.

[8]D. Friedman, "Efficient Institutions for the Private Enforcement of Law." *Journal of Legal Studies*, June (1984).

[9]For instance, the possibility that precautions taken by one potential victim may impose net costs on another, by deterring the criminal into altering his target, or net benefits, if the criminal knows the average level of precaution but not which targets are protected.

Page 296 (additional comments):

I go through the analysis in much greater detail in "Efficient Institutions for the Private Enforcement of Law" (webbed on my page). One issue discussed there but omitted here is the problem faced by the court system in determining whether or not an enforcement agency is actually fulfilling its obligation to impose the court-set level of expected punishment. Under some circumstances--if marginal increases in punishment bring in more revenue than they cost in enforcement and punishment cost--it is in the interest of the enforcement firm to try to cheat on the system by imposing a higher expected punishment than it reports; under other circumstances, where increases in punishment cost more than they bring in, it is in the firm's interest to cheat in the opposite direction.

A second issue I have skipped over is the question of risk aversion. Strictly speaking, what I refer to here as "expected punishment" should be what I have described elsewhere as "effective punishment." The effective punishment corresponding to a given punishment lottery is its certainty equivalent--the fine that, imposed with certainty, is equivalent, from the standpoint of the offender, to that lottery. Costs associated with risk aversion then get included in punishment cost. If the court system imposes a one percent chance of a fifty thousand dollar punishment on an offender, and if the (risk averse) offender regards that as equivalent to a certain fine of a thousand dollars, then the punishment, on average, brings in $500 per offense, costs the offender $1000 per offense, thus has a punishment cost of $500.

Chapter 19

Page 299 (cite to a book or article):

This issue is discussed by Posner at considerable length in "What Do Judges Maximize," Chapter 3 of *Overcoming Law*, but without, in my view, coming to any satisfactory conclusion.

Page 299 (cite to a book or article):

The argument is made by Paul H.Rubin in "Why is the Common Law Efficient?, *6 J. Leg. Stud.* 51 (1977).

Page 302 (cite to a book or article):

Posner's defense of the mandatory nature of product liability rules is found in Landes and Posner, *The Economic Structure of Tort Law* (Cambridge, MA: Harvard University Press 1987), Chapter 10, esp. pp. 280-284.

Epilogue

Page 310 (cite to webbed material):

Some chapters from my first book, *The Machinery of Freedom: Guide to a Radical Capitalism*, are webbed on my site. Discussions of how the legal institutions of a society without government might work can also be found in my "Law as a Private Good," *Economics and Philosophy* 10 (1994), 319- 327, "Anarchy and Efficient Law" *in For and Against the State*, edited by Jack Sanders and Jan Narveson, Rowman & Littlefield 1996. Readers interested in a different, but not inconsistent, approach to the subject, emphasizing the historical importance of private legal institutions, may want to look at Bruce Benson's *The Enterprise of Law*.

Page 318 (cite to webbed material):

See part III of my first book, The Machinery of Freedom: Guide to a Radical Capitalism, for a non-technical explanation. For a more elaborate discussion, including a form of market failure that would result in some inefficient legal rules, see my chapter "Anarchy and Efficient Law" in For and Against the State, edited by Jack Sanders and Jan Narveson, Rowman & Littlefield 1996.

Quite a lot of interesting work in the economic analysis of law is available online as working papers. See, in particular, the collection of working papers webbed by the Olin program in law and economics at the University of Chicago Law School and the similar collection from Harvard.