

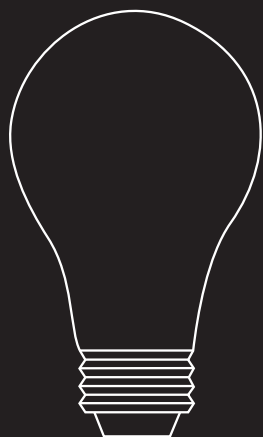
INTELLECTUAL PROPERTY STRATEGY

JOHN PALFREY



THE MIT PRESS ESSENTIAL KNOWLEDGE SERIES

INTELLECTUAL PROPERTY STRATEGY



The MIT Press Essential Knowledge Series

Information and the Modern Corporation, James W. Cortada

Intellectual Property Strategy, John Palfrey

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JOHN PALFREY

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For Terry Fisher, whose every idea makes perfect sense immediately

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SERIES FOREWORD

The MIT Press Essential Knowledge series presents short, accessible books on need-to-know subjects in a variety of fields. Written by leading thinkers, Essential Knowledge volumes deliver concise, expert overviews of topics ranging from the cultural and historical to the scientific and technical. In our information age, opinion, rationalization, and superficial descriptions are readily available. Much harder to come by are the principled understanding and foundational knowledge needed to inform our opinions and decisions. This series of beautifully produced, pocket-sized, soft-cover books provides in-depth, authoritative material on topics of current interest in a form accessible to nonexperts. Instead of condensed versions of specialist texts, these books synthesize anew important subjects for a knowledgeable audience. For those who seek to enter a subject via its fundamentals, Essential Knowledge volumes deliver the understanding and insight needed to navigate a complex world.

Bruce Tidor

*Professor of Biological Engineering and Computer Science
Massachusetts Institute of Technology*

PREFACE

I have written this book in two related, yet distinct, formats. As a conventional matter, this book might be read in the printed form that you now hold in your hands. This is, purposely, a short book, designed to give you a primer on intellectual property strategy in no more time that it takes to fly, say, from New York to London or Boston to Los Angeles, if you were to read it cover-to-cover in a single sitting.

As an experimental matter, I've also written the book, as well as a series of companion case studies and related material, to be read in a purely digital format. The idea behind this digital version is to experiment with whether a reader might benefit from a presentation of these ideas that is at once both linear and nonlinear. While you can make your way through the text just as you might the conventional, printed version (albeit on a screen), you are offered a series of places where you might take a deeper dive into one or more topics that especially interest you.

These potential diversions, built into the digital version of the book, take the form of a series of case studies and short videos. These supplements are designed to enable you to go deeper on many of the big themes developed in the conventional form of the book. Via links within the

text, you will find connections to case studies on a range of topics. For instance, these cases take up follow-on biologics, an important form of innovation in the market for lifesaving drugs internationally; the practice of licensing trademarks in the collegiate market; university technology commercialization; open innovation, in particular the InnoCentive model; the story of Starbucks and its attempts to trademark coffee from Africa; and the licensing opportunities seized by major museums, such as the Louvre in France.

These brief cases also include links to the open web. My hope is that you might at some point, after such a detour, return to the book, rather than allowing yourself to be pulled into the deeper web. Even if you don't return to the book, that is a risk I consider worth taking. There is, after all, more to be said on the topic of intellectual property strategy than I've included in either version of this book.

The videos are interviews that I have recorded with experts in the field of intellectual property. You can watch these videos in full, via the iPad application or on YouTube. You will also find pointers to snippets from the videos embedded in the text of the digital version of the book in places where I encourage you to take a detour to hear from someone other than me, the primary author.

Last, and most important in a way, I hope that you will talk back: to challenge the ideas I've put forward here in

this book, online and in public, to help build our common understanding of the world of ideas, knowledge, and innovation in today's global marketplace. It is through this kind of public exchange that we can together grow smarter about intellectual property.

ACKNOWLEDGMENTS

I owe thanks to a great team of collaborators. June Casey, my colleague at Harvard Law School, has proven to me, yet again, how important truly great librarians are, especially in a digital era. June provided substantive and editorial advice on both the main text and the online materials, including the case studies, videos, and user interface. She also managed and supported an able group of law students who have also contributed mightily to this project. In partnership with June, David Jacobs researched and drafted most of the case studies that accompany this volume. Daniel Doktori researched and drafted the case on university technology licensing. Andrew Breidenbach provided valuable research assistance for the primary text of the book. My colleagues at the Berkman Center for Internet & Society at Harvard University have provided deep inspiration. Dean Martha Minow, Terry Fisher, Urs Gasser, Lawrence Lessig, Phil Malone, and Jonathan Zittrain have been generous with their ideas. Margy Avery and her team at the MIT Press, as well as the group of blind peer reviewers that she assembled, have been a pleasure to work with. My family, as ever, has been patient and supportive through yet another book project that cut into my time on the playground and Little League diamond.

INTRODUCTION

The Self-Limiting Myth of the Sword and the Shield

Copyrights: Your Sword and Your Shield.

—S&E Entertainment–Music Publishing, October 1, 2009

The sword and shield of patent protection: *Nokia v. Apple/Apple v. Nokia*.

—Chris F. Lonergo, Ober Kaler law firm, February 2, 2010

In the first instance, intellectual property rights in patent, trademark or copyright are used as a sword. . . .

[In other cases,]itigation becomes a shield.

—Intellect Law Group, 2010

[Intervention by a competition authority is justified w]hen a patent owner uses his patent rights not only as a shield to protect his invention, but as a sword to eviscerate competition unfairly.

—*Atari Games Corp. v. Nintendo*, 897 F.2d 1572 (Fed. Cir. 1990)

In conventional wisdom, intellectual property strategy is about the sword and the shield. As a sword, intellectual property can be used to attack a competitor who seeks to exploit some aspect of your intellectual property in a way that violates your rights. As a shield, intellectual property can help you to stave off the attacks of your competitors. That's still true—but only to an extent. This outdated metaphor, invoking the battlefield, suggests that you should control and exploit your intellectual property to the greatest extent allowed by law in every instance, no matter the context and no matter who you are. This theory no longer describes the best approach for most institutions, much of the time.

In this book, I argue that intellectual property should first evoke images of the boardroom and its deal-making table—and only later the courtroom, if things go terribly wrong, but as a last resort. The people who benefit the most from these disputes ending up in court are the lawyers who make their living on the fees generated in these disputes, which routinely run into the millions or tens of millions of dollars. As someone responsible for your organization—whether a business or nonprofit, a government agency or university—you are much less likely to benefit from an exclusive sword-and-shield strategy with respect to your intellectual property than is your lawyer.

If you are like many managers, you probably don't pay much attention to your organization's intellectual property.

This book, a short briefing intended for an audience of senior managers, is designed to change that. I contend that intellectual property strategy deserves greater attention from both senior managers of corporations and administrators of nonprofits like universities in a wide range of fields. This argument is not only relevant to those who run high-tech, for-profit organizations. I claim that the traditional way of thinking about intellectual property within the organization will have a negative and limiting impact, leading to shortsighted decisions if you don't look beyond it. Flexibility and creativity are essential to a profitable long-term intellectual property strategy. Strategies grounded in openness and connectedness to others (in technical terms, "interoperability") can offer surprising benefits to those who are willing to experiment with new approaches.

You should instead think of intellectual property as a flexible asset class that can help your organization in a broad range of ways. In formulating your overall strategy, you should give special consideration to strategies of openness rather than exclusion, especially in the information context. This advice holds true regardless of the type of institution you are leading, whether a for- or nonprofit, whether you are well established or a start-up.

At the broadest level, intellectual property is a way of describing what the people in your organization know and are capable of doing. It's the collected knowledge, work product,

Strategies grounded in openness and connectedness to others (in technical terms, “interoperability”) can offer surprising benefits to those who are willing to experiment with new approaches.

and skill set of all the people who make up your team. Even the know-how of your staff at large explicitly has value. Sometimes an intellectual property-related transaction requires the hiring of staff members who know how to implement the intellectual property, whether as part of a licensing deal, merger, or acquisition, or in a bankruptcy setting. Those who think about “knowledge management” as part of the organization’s overall strategy will get this concept intuitively.

At the same time, intellectual property is also an essential, flexible asset class that can help you accomplish a range of goals, from accessing new markets to improving existing products to generating new revenue streams. By “flexible,” I mean that intellectual property can be more than just a line item on the balance sheet; it can be used in a wide range of ways to help achieve your organization’s mission in short-, medium-, and long-term ways. What I mean by “asset class” is that intellectual property is an important set of resources available to any senior manager as you seek to achieve your overall mission, which has intrinsic value that can be worked into a balance sheet.

In many organizations, intellectual property should be viewed as a key strategic class of assets. The global intellectual property licensing market for trademarks and copyrights alone tops one hundred billion dollars per year. Organizations headquartered in the United States and Canada earn nearly seventy billion dollars of that total annual

revenue. The licensing of patents adds billions more.¹ If that market size alone doesn't get your attention, consider the fact that intellectual property makes up 40 percent of the net asset value of all corporations in the United States.² In a cultural institution, think of the value—which can also reach the millions or billions of dollars—of the collections you hold. For any organization, the brand value in your name and logo may be extraordinarily worthwhile in its own right.

The primary message in this book is simple: you need to think broadly and creatively about how you invest in your organization's intellectual property asset base, and how you use it. As you might guess, that's much easier said than done. Whether or not your organization is already an active participant in the emerging marketplace of ideas and skills, there are opportunities to increase your licensing of intellectual property to achieve your business goals. A licensing strategy might involve looking at the valuation of your intellectual property (IP) portfolio in a new way. This strategy might involve licensing what you already have in your IP portfolio. It might mean acquiring more IP one way or another. Or it might mean giving away some of your rights for long-term strategic reasons.

The simple argument that runs through this book is that you should consider each of these approaches as part of your tool kit. The secondary and subtler assertion is that you should favor strategies of relative openness where they

can offer greater long-term benefits than strategies of exclusion. Regardless of the approach you choose in any given situation, it's increasingly important to get your intellectual property strategy right—and focus on its evolution, in a fast-changing marketplace—to be competitive in a global knowledge economy.

Key Strategic Moves in Intellectual Property

There are many crucial strategic moves beyond the concepts of the sword and the shield that you can make using intellectual property. First, there is a wide range of ways that you can acquire intellectual property in the first place. When you innovate, whether in a for- or nonprofit setting, you are almost certainly establishing some form of intellectual property rights. You can also obtain rights by licensing intellectual property from someone else in a way that will help you to grow your business or expand your margins. It might mean entering into a joint development agreement to pool your intellectual property with others to create something innovative together. You might even get your customers to contribute intellectual property to you as they use your products or services. In many cases, customers will generously contribute this intellectual property to you for free. You should open yourself up to the opportunity to receive their contributions.

Second, there's a broader range of things you can do with your intellectual property once you've established these rights. At the most basic level, you can exercise your rights to their fullest extent to exclude others from using your intellectual property. I call that strategy "full exclusion." That's the classic approach, and it sometimes makes good sense for an organization. But it might sometimes pay off handsomely for you to license, sell, or give away certain rights, while retaining others for yourself. You might also offer it to others to use on a limited basis, or "limited exclusion." Finally, you might offer it up for anyone to use for any purpose, or "open access," in ways that may help you gain a market share or fulfill your organization's mission. Each of these potential strategies could constitute part of your organization's overall intellectual property strategy. Which of these strategies you apply in a given situation will depend on a host of factors.

The best intellectual property strategy will be flexible. A flexible strategic approach will prompt you to ask hard, context-specific questions about which approach along this spectrum makes sense for any given type of intellectual property at a given time. The most innovative organizations employ multiple types of uses, depending on the situation. Advanced intellectual property licensing strategies can also help build market share, improve the quality or attractiveness of existing products, develop productive relationships with your customers, and grow your

organization and industry or field as a whole. Intellectual property can help build a thriving business or nonprofit ecosystem from which many players as well as consumers or patrons stand to benefit.

The most vibrant ecosystems may prove to be those in which consumers don't just "consume" products but in fact volunteer their services to help innovate with and alongside organizations, as we've seen in parts of the software and Web 2.0 industries. This shift is easiest to see in the context of nonprofits, such as universities, libraries, and museums. But it can be just as true in the business context, especially in information technology (IT) and content-related sectors. It's true, too, in the context of design, fashion, biotechnology, and a range of other unexpected domains.

Just as the rewards for getting and using your intellectual property today are higher, the risks involved in this aspect of business are also higher than they were just a few decades ago. The intellectual property business is "high beta"—the term that investors use to describe an asset that offers high risk and high reward, unlike, say, cash reserves. The costs of licensing someone else's intellectual property can be extremely high; the costs of not licensing and using it anyway can be even higher.

On the bright side, if you can become an entity that licenses intellectual property to others—a "licensor," in legalese—you can generate attractive rates of return on

your investment. Intellectual property licensing is such a big business in part because it can generate so much free cash flow. It's also a big deal because it can help both parties to grow. And it's on many managers' minds because the downside of getting it wrong in the first place can be enormous.

Intellectual Property Matters to Your Organization (Yes, Even Yours)

You might think, off the bat, that intellectual property is just a matter of concern to big, established for-profit companies in fields like biotech, software, or publishing that have large licensing operations. It is certainly crucial to those firms. But as the global knowledge economy grows each year, the importance of intellectual property strategy also grows for nonprofit organizations such as universities, libraries, museums, public media producers, and a broad range of cultural heritage institutions.

Intellectual property can mean many different things to different kinds of organizations. That makes it a broad topic for a short book. Intellectual property generally takes the form of rights that vest in creators of innovative ideas, expressions, processes, and brands. These rights are established by law, and granted to people or organizations through four primary types of interests: patents (for ideas

and methods, which in time are made public), copyrights (for expressive works), trademarks (for protecting and eliminating confusion with respect to brands), and trade secrets (for methods of doing things that are not made public).³

Pretty much every organization has an intellectual property portfolio of some kind and value, whether or not the organization realizes it as such. As a result, virtually every organization needs an intellectual property strategy, even if it's a simple one. The easiest way to see this point is that every organization has a brand that describes it to the outside world, which is itself an important form of intellectual property. That's true of a fancy university like MIT or Ole Miss in the United States, Oxford in England, or Keio in Japan. Think of all the sweatshirts that a big collegiate sports program sells for major public institutions like the University of Nebraska or the University of North Carolina. It's true, too, of institutions such as the Smithsonian, the Tate, or the Hermitage. And it is certainly true of a business of any kind.

There's a second, more subtle point that draws most organizations into the intellectual property field as well. We are increasingly operating in an economy that revolves around the production and management of information rather than physical production. The more that an organization is involved in managing information, the more likely the firm is to be operating in the realm of intellectual

property, as opposed to physical property, in a variety of respects.

Consider the case of Triumvirate Environmental, a leading company in the US hazardous waste business. John McQuillan, the CEO of Triumvirate Environmental, once told me, “I’m not in the environment business. I’m in the information business.”⁴

Yes, it’s true that Triumvirate Environmental is a company that makes most of its money in a literal sense by charging its consumers for treating hazardous waste and carrying it away in their signature green trucks to a safe place. On another level, though, what McQuillan is really doing for his clients is providing and managing the information about this waste along with the fact that it was properly handled. This information is of great importance to regulators, business partners, and the public. This information itself is intellectual property. If, like McQuillan’s Triumvirate Environmental, you’re really in the “information” business on any level, you need an intellectual property strategy.

Like the global information economy at large, the field of intellectual property is emerging quickly. It is very much in flux, which is a key reason why a flexible strategy is so critical. Things are changing in terms of everyday practice; “social norms,” or the way in which people think about and act with respect to intellectual property; and the law itself, especially when one takes a worldwide view. With every

passing year, the marketplace for intellectual property becomes ever-more global. Major markets, like China and India, are fast becoming intellectual property creators rather than just net intellectual property consumers (or worse, pirates). As the world shifts away from an industrial economy to a knowledge economy, intellectual property is increasingly becoming a coin of the global business realm.

But it's much more complex than other asset classes. Depending on the kind of organization that you run, intellectual property might seem more like a minefield, commons, and/or public relations tinderbox. These multiple facets of intellectual property call for careful, proactive management, which is one of the key premises of this book.

No matter what industry you are in, you need to think about intellectual property more flexibly and expansively than your predecessors once did. The law is changing, and sometimes rapidly, on an international basis. That's true whether you are talking about copyrights, patents, or trademarks. The biggest changes are coming in terms of how business leaders are thinking about intellectual property in strategic terms. Strategy in this area is dramatically different today than it was even a decade or two ago. This book is designed to suggest ways to establish an intellectual property strategy that will be up to date for today's global information economy and also endure the inevitable changes of tomorrow.

Intellectual Property Strategy presents the state of the art in thinking on intellectual property to CEOs, senior managers, and those aspiring to lead any type of organization. The twin goals of this book are to point to the areas of greatest importance in this fast-moving field and offer practical insights to senior managers on how to create a strategy to enable an organization to address the challenges and opportunities that these areas hold.

In full disclosure, along the way I intend to nudge you toward exploring strategies of openness on the basis of their long-term business promise as well as the relationship between your intellectual property strategy and your brand. In doing so, I refer, one way or another, to each of the four essential areas of intellectual property—patent, copyright, trademark, and trade secret—from the perspectives of a range of types of organizations.

This book is built around four recommendations. I suggest that regardless of the type of organization you run, you should:

1. Consider intellectual property to be an asset class (rather than solely as a sword and a shield). You need first to establish this asset class, understand its near- and long-term value, then manage it, and find ways to use it to expand the range of opportunities to achieve your core mission, whether that is profitability for your firm or a broadly public-interested outcome.

2. Be open to what your customers, competitors, and others can offer you in terms of intellectual property. Your most important intellectual property might come from unlikely sources. And in many instances, your organization is situated in an intellectual property ecosystem that can support the growth and profitability of multiple participants if the ecosystem itself thrives in a cooperative environment.

3. Build from the premise that intellectual property is most valuable insofar as it creates freedom of action for your organization rather than serving as an offensive weapon against others. As a related concept, you should understand the extent to which your brand value is intertwined with intellectual property rights in ways that you can't disentangle.

4. Establish a strategy that enables you to be creative and flexible in what you do with your intellectual property—by thinking beyond the sword and the shield. In so doing, you should be sure to consider strategies—more than you have in the past—that harness the power of greater openness and interoperability as among your key options.

If you ignore, neglect, or fail to manage your intellectual property, you are probably running unnecessary risks as an organization. And you are almost certainly missing opportunities. That's increasingly true in many industries

as the knowledge economy grows. By taking the four basic steps outlined in this book, you can mitigate these risks. At the same time, you can lead your organization to greater success, whether you define that as higher profits, a stronger balance sheet, better products, closer relationships with your customers and business partners over time, or more visitors to your institution or Web site. You will be contributing to the development of a knowledge-based ecosystem from which your organization will stand to benefit over the long term. All the while, you will be positioning your organization for success in the global information economy.

Chapter 1

1. Karen Raugust, *The Licensing Business Handbook*, 7th ed. (New York: EPM Communications, 2008), v.
2. Kamil Idris, *Intellectual Property: A Power Tool for Economic Growth* (Geneva: World Intellectual Property Organization, 2003), 34.
3. This book is not meant to serve as a primer on the intellectual property law itself, nor does it constitute legal advice, but I say a bit more about each of these types of intellectual property assets in the glossary. I suggest further readings at the end of the book for those who would like to go deeper in any of these areas. One of the best recent books of this sort is Steven J. Frank's *Intellectual Property for Managers and Investors* (New York: Cambridge University Press, 2006), which offers more detail on intellectual property law as such from the perspective of a practicing attorney. The best advice on the law itself is, ideally, your in-house or outside counsel, who should be a key ally in setting the organization's intellectual property strategy.
4. In conversation with the author, Boston, MA, June, 2001.

Chapter 2

1. Separately, Apple and Nokia have sued one another over IPs related to smart-phones. See, for example, Chris F. Loney, "The Sword and the Shield of Patent Protection: Nokia v. Apple/Apple v. Nokia," February 2, 2010, available at <http://www.lexology.com/library/detail.aspx?g=b62e2e12-d0f3-4e6a-8bf7-ea055b5c8606>.
2. RIM had its own costly, high-profile run-in with a patent holder, NTP, Inc.
3. See *In re Bilski*, 545 F. 3d 943, 88 U.S.P.Q. 2d 1385 (Fed. Cir. 2008).
4. As one example, on the question of the effects of patents on innovation, see James Bessen and Michael J. Meurer, *Patent Failure: How Judges, Bureaucrats, and Lawyers Put Innovators at Risk* (Princeton, NJ: Princeton University Press, 2008)—for the strong form of the argument that patents do not purely lead to innovation based on what they claim is the first comprehensive empirical analysis of the patent system.
5. It is only fair that I declare my bias, which I describe in greater detail in chapter 9: I favor many of the reforms that would roll back extensions of the intellectual property protection regime, especially in the area of copyright doctrine.

I don't think, for instance, that copyright term extension is necessary to promote innovation and creativity (what author, after all, is thinking about their great-great-grandchildren when they decide whether or not to write?), and believe it comes with costs that are net negative for society. This normative bias leads me to ask questions about whether there are better ways to benefit from ideas and information than the pure exclusion strategy I refer to in the book. But here I strive to be objective and present options to you as I see them through the lens of a business adviser, much as a lawyer does for a client (though, of course, this book does not and cannot constitute legal advice).

6. Even for smaller matters, intellectual property litigation costs can be prohibitive, and companies may find themselves unable to enforce some of their rights. Take it from Kirsten Osolind, the CEO of a small Chicago marketing organization called re:invention, who became embroiled in a trademark dispute with another company. After spending fifteen thousand dollars for the first three months of legal assistance in her bid to enforce her trademark rights, she learned that it would cost at least another hundred thousand dollars to bring her case to court and declined to pursue the matter further. See Elaine Pofeldt, "Marking Your Territory," *Go Magazine*, 85–87, January 2010.

7. See David A. Vise, "Google Ends Its Dispute with Yahoo," *Washington Post*, August 10, 2004, available at <http://www.washingtonpost.com/wp-dyn/articles/A52880-2004Aug9.html>.

Chapter 3

1. Robert M. Solow, "A Contribution to the Theory of Economic Growth," *Quarterly Journal of Economics* 70, no. 1 (February 1956): 65–94, available at <http://www.jstor.org/pss/1884513>.

2. See <http://hd.engadget.com/2009/02/04/samsung-hedges-its-bets-with-uni-pixels-tmos-display-technology>.

3. "The 'Real' Story behind the Sirius/XM Merger," SeekingAlpha.com, July 11, 2008, available at <http://seekingalpha.com/article/84518-the-real-story-behind-the-xm-sirius-merger>.

4. For details of the Sirius-XM joint development agreement along with other examples, see J. Derek Mason, *Critical Issues in Joint Development Agreements* (Alexandria, VA: Oblon, Spivak, McClelland, Maier and Neustadt, May 28, 2008), available at http://www.oblon.com/sites/default/files/news/414_B_0.pdf.

5. See <http://www.bp.com/genericarticle.do?categoryId=2012968&contentId=7055476>.

6. US General Accounting Office, "Intellectual Property: Federal Agency Efforts in Transferring and Reporting New Technology," GAO-03-47, October 2002.

See also the National Aeronautics and Space Administration patents licensed at the Ocean Tomo auction in fall 2008 in Chicago.

7. See Andrew Toole, "Does Public Scientific Research Complement Industry R&D Investment? The Case of NIH-Supported Clinical Research and Pharmaceutical Industry R&D," Center for European Economic Research, ZEW discussion Paper (2005), abstract available at <http://ideas.repec.org>.

8. For examples of and information regarding federal technology-transfer programs, see National Institute of Standards and Technology, *U.S. Department of Commerce, Federal Laboratory Technology Transfer, Fiscal Year 2007: Summary Report to the President and Congress* (2009), available at <http://www.nist.gov/tpto/index.cfm>.

9. For information on how to take advantage of the federal government's vast technology portfolio, you can visit the Federal Laboratory Consortium for Technology Transfer's Web site, available at <http://www.federallabs.org/home/faqs>.

10. Alison Frankel, "The Dam Breaks: Intellectual Ventures Files Three Patent Infringement Complaints in Delaware," *American Lawyer*, December 8, 2010, available at <http://www.law.com/jsp/tal/PubArticleTAL.jsp?id=1202475921457&slreturn=1&hbxmllogin=1>.

11. See Sarah Jones, "Luna Purchases Rival's Patents," *Roanoke Times*, December 30, 2009, available at <http://www.roanoke.com/business/wb/231303>.

12. See http://www.businessweek.com/2001/01_10/b3722001.htm.

13. In 2008, the average total pendency of a patent application was 32.3 months in the United States. This figure relates to the average time from the most recent filing date, so the true figure might be significantly higher. See <http://ipwatchdog.com/2009/04/22/uspto-backlog-patent-pendency-out-of-control/id=2848>.

14. See John Rivzi, "Single Letter Wrong in Medical Patent on Heart Surgery Solution Spells Disaster," Medical and Dental Advice Patenting blog, September 28, 2009, available at <http://www.medicaldevicepatentattorneys.com/2009/09/articles/drafting-medical-technology-pa/single-letter-wrong-in-medical-patent-on-heart-surgery-solution-spells-disaster>. See also *Central Admixture Pharmacy Services Inc. v. Advanced Cardiac Solutions, P.C.*, 482 F.3d 1347 (2007) and subsequent history.

Chapter 4

1. For IBM, see http://www.businessweek.com/magazine/content/06_32/b3996062.htm?chan=tc&campaign_id=rss_tech. For LEGO, see <http://outsideinnovation.blogs.com/pseybold/2008/05/lego-celebrates.html>; <http://www.wired>

.com/wired/archive/14.02/lego.html. For PETCO, see <http://www.womma.org/casestudy/examples/automate-word-of-mouth-marketing/petco-analyzes-product-reviews>.

2. See <http://developer.apple.com/iphone>.

3. See <http://www.livescribe.com/cgi-bin/WebObjects/LDApp.woa/wa/DeveloperOverviewPage>.

4. See <http://www.marketingpilgrim.com/2007/04/google-maps-to-mash-up-companies-suckers.html>.

5. See Henry Chesbrough, *Open Innovation: The New Imperative for Creating and Profiting from Technology* (Cambridge, MA: Harvard Business Press, 2003).

6. See Dyan Machan, "Inventors Wanted," *SmartMoney Magazine*, March 2009, 42.

7. See <http://www.informationweek.com/news/showArticle.jhtml?articleID=197000211>.

8. See Mark Blaxhill and Ralph Eckhardt, *The Invisible Edge: Taking Your Strategy to the Next Level Using Intellectual Property* (New York: Portfolio, 2009), 151.

9. "InnoCentive: A Market for Ideas," *Economist*, September 17, 2009.

10. The Generic Pharmaceutical Association commissioned a study by IMS Health, available at <http://www.gphaonline.org/about-gpha/about-generics/case/generics-providing-savings-americans>. The study argues that the generic pharmaceutical industry saved US consumers \$734 billion over the course of a decade, with a savings of \$121 billion in the year 2008 alone. Other pharmaceutical companies contend that this study is misleading.

11. See chapter 7 below.

12. On the prize system, see William W. Fisher and Talha Syed, *Drugs, Law, and the Health Crisis in the Developing World* (Stanford, CA: Stanford University Press forthcoming). On Equitable Access licenses, see Amy Kapczynski, Samantha Chaifetz, Zachary Katz, and Yochai Benkler, "Assessing Global Health Inequities: An Open Licensing Approach for University Innovations," *20 Berkeley Technology Law Journal* 1031 (2005).

13. See Jonathan D. Rockoff and Ron Winslow, "Merck to Develop Biotech Generics," *Wall Street Journal*, December 10, 2008, B1.

14. Thomas Rogers and Andrew Szamosszegi, "Fair Use in the U.S. Economy: Economic Contribution of Industries Relying on Fair Use" (Washington, DC: Computer and Communications Industry Association, 2010), available at <http://www.cciainet.org>.

Chapter 5

1. Professor Tim Wu of Columbia Law School refers to this notion as “tolerated use.” It is also referred to as “permitted use.” See Tim Wu, “Tolerated Use,” *Columbia Journal of Law and the Arts* 31, no. 4 (summer 2008): 617.
2. Jennifer Delson, “Got a License for that Pinata?” *Los Angeles Times*, June 19, 2005, available at <http://articles.latimes.com/2005/jun/19/local/me-pinata19>.
3. See <http://www.unhappybirthday.com>.
4. See <http://www.law.umkc.edu/faculty/projects/ftrials/communications/ASCAP.html>.
5. See “China Real Time Report: Another Yahoo-Alibaba Spat,” September 10, 2010, available at <http://blogs.wsj.com>. See also Erica Werner, “Yahoo Execs Defend Company’s Role in Arrest of Chinese Journalist,” Associated Press News-wires, November 6, 2007. See also Stephanie Kirchgassner, “Yahoo CEO Repents over Chinese Dissident,” November 6, 2007, available at <http://www.ft.com>.
6. See Ashley Seager, “Starbucks, the Coffee Beans, and the Copyright Row That Cost Ethiopia 47 m. GBP,” *Guardian*, October 26, 2006, available at <http://www.guardian.co.uk/world/2006/oct/26/usa.ethicalliving> (note that the *Guardian* mistook trademark interests for copyrights in the title as well as the body of the article). See also the press release that Starbucks issued a month later as part of its damage control, “Talks between Starbucks and the Ethiopian Government Positive and Ongoing,” November 30, 2006, available at http://news.starbucks.com/article_display.cfm?article_id=126.

Chapter 6

1. See “AMD Reports Fourth Quarter Results,” January 21, 2010, available at <http://www.amd.com/us/press-releases/Pages/q4-earnings-2010jan21.aspx>. See also George Chidi, IDG News Service, May 04, 2001, “AMD and Intel Renew Cross-licensing Agreement,” available at http://www.itworld.com/IDG010504amd_intel.
2. See <http://www.extremetech.com/article2/0,1558,1729927,00.asp>.
3. See William W. Fisher III, “When Should We Permit Differential Pricing of Information?” *UCLA Law Review* 55, no. 1 (2007).
4. See Patricia M. Danzon and Michael F. Furukawa, “Prices and Availability of Pharmaceuticals: Evidence from Nine Countries,” *Health Affairs* 22, no. 6 (2003): W521–W536, available at <http://content.healthaffairs.org/cgi/content/full/hlthaff.w3.521v1/DC1>.
5. See Hal R. Varian, “Versioning Information Goods” (1997), available at <http://www.ischool.berkeley.edu/~hal/Papers/version.pdf>.
6. See Rachel Keeler, “Sharper Focus on Intellectual Property,” *Financial Times*, November 18, 2008, available at <http://www.ft.com>.

7. Roger Parloff, "Fortune 500 Series: Monsanto," Fortune, Inc., 2010, available at http://money.cnn.com/2010/05/06/news/companies/monsanto_patent_fortune/index.htm. Another element of this story is the dispute between Monsanto, DuPont, other agribusinesses, and the US Department of Justice over whether Monsanto is abusing its monopoly position in Roundup Ready.
8. Paul M. Janicke and Lilian Ren, "Who Wins Patent Infringement Cases?" *American Intellectual Property Law Association Quarterly Journal* 34, no. 1 (2006).
9. See Kenneth N. Cukier, "A Market for Ideas," *Economist*, October 20, 2005.
10. Nathan Myhrvold, formerly the chief technology office of Microsoft and now principal of large rights aggregator Intellectual Ventures, argues that software titans "infringe lots and get away with it. They have made deliberate decisions not to check patents. They're afraid in the long run they'd have to pay somebody." Quoted in Victoria Slind-Flor, "IV Moves from Myth to Reality," *Intellectual Asset Management*, August–September 2006, 33.
11. See <http://www.cptech.org/ip/health/cl/cipro>.
12. US Statement of Interest, *NTP, INC., v. Research in Motion, Ltd.*, November 2005.
13. A patent pool is a voluntary arrangement where a group or groups agree to license identified classes of patents and/or classes of technology to third parties on predetermined standard conditions. See <http://www.gsk.com/collaborations/patentpool.htm>.
14. Indeed, the patents are only freely available to the extent that the products created are used in *least* developed countries. If used elsewhere, a different type of license must be negotiated with GlaxoSmithKline.

Chapter 7

1. "Gilead Sciences and Royalty Pharma Announce \$525 Million Agreement with Emory University to Purchase Royalty Interest for Emtricitabine," Emory University press release, July 18, 2005, available at <http://www.emory.edu/news/Releases/emtri>.
2. Consider the research project conducted by my colleagues at the Berkman Center for Internet and Society at Harvard University on the copyright licensing opportunities of private foundations, available at http://cyber.law.harvard.edu/publications/2009/Open_Content_Licensing_for_Foundations.

Chapter 8

1. National Research Council of the National Academies of Sciences, Committee on Intellectual Property Rights in the Knowledge-Based Economy, Board of Science, Technology, and Economic Policy, *A Patent System for the*

Twenty-first Century (2004), available at <http://www.nap.edu/openbook.php?isbn=0309089107>.

2. See, for example, “Follow-on Biologics Bill Threatens Innovation by Weakening Patent Rights,” Holman’s Biotech IP Blog, June 28, 2009, available at <http://holmansbiotechipblog.blogspot.com/2009/06/follow-on-biologics-bill-threatens.html>.

3. *KSR v. Teleflex*, 550 U.S. 398 (2007); *In re Bilski*, 545 F. 3d. 943, 88 U.S.P.Q. 2d 1385 (Fed. Cir. 2008).

4. William Alford, *To Steal a Book Is an Elegant Offense: Intellectual Property Law in Chinese Civilization* (Stanford, CA: Stanford University Press, 1997).

5. See the Web site on Chinese intellectual property law and policy, available at <http://www.chinaipr.gov.cn>. For instance, consider Prime Minister Jiabao’s speech at the Davos meeting in September 2009, available at http://www.chinaipr.gov.cn/policyarticle/policy/speeches/200909/544678_1.html. For similar pronouncements, see Mark Blaxhill and Ralph Eckhardt, *The Invisible Edge: Taking Your Strategy to the Next Level Using Intellectual Property* (New York: Portfolio, 2009), 15.

6. See Miguel Helft and Ashlee Vance, “Apple Passes Microsoft as No. 1 in Tech,” *New York Times*, May 26, 2010, available at <http://www.nytimes.com>. See also Associated Press, “Apple Dethrones Microsoft as the Biggest Tech Company in the World,” *Huffington Post*, May 26, 2010, available at http://www.huffingtonpost.com/2010/05/26/apple-market-cap-surpasse_n_590854.html.

Glossary

1. These definitions are drawn from a combination of sources. For more information of the definitional variety, consider Bryan A. Garner, ed., *Black’s Law Dictionary*, 9th ed. (Eagan, MN: West Group, 2004); Kinley and Lange, P.A., *Intellectual Property Law for Business Lawyers* (Eagan, MN: West Group, 2010); J. Thomas McCarthy, Roger E. Schechter, and David J. Franklyn, *McCarthy’s Desk Encyclopedia of Intellectual Property*, 3rd ed. (Washington, DC: Bureau of National Affairs, 2004); and Karen Raugust and the editors of the Licensing Letter, *The Licensing Business Handbook* (New York: EPM Communications, 2007). Other good sources include the Web sites of the US Patent and Trademark Office, the US Copyright Office, the World Intellectual Property Organization, and the World Trade Organization.

2. For more on this topic in general, see the International Licensing Industry Merchandiser’s Association, available at <http://www.licensing.org/education>.

