

1

The Creative Industries

RISKY, EXPENSIVE, AND WORTH PRESERVING

Introduction

Think about *Breaking Bad* and *Orange Is the New Black*. About the novels of John Grisham, Scott Turow, Mary Higgins Clark, and Jane Smiley. About Taylor Swift, Radiohead, and Mumford & Sons. About the latest in the Jason Bourne and *Star Wars* franchises. Chances are you've spent many pleasurable hours immersed in their worlds.

Across most of the planet, we spend about a third of our waking hours watching television and movies, listening to music, or reading. Americans spend on average 6.15 hours per day consuming cultural products: film, TV shows, books, and music. Brazilians spend 6 hours, Poles spend 5.7, Germans spend 5.25, and the French spend 5.05.¹ Only sleep, at nearly 8 hours per day, takes up more of Americans' time than the nearly 4 hours spent watching television and reading. Across all Americans, including those without jobs, work clocks in at an average of 3.61 hours per day.²

In addition to substantial amounts of both entertainment and great art—Lee Child, Stieg Larsson, and Nora Roberts, but also Yann Martel, Joyce Carol Oates, and Michael Chabon; Britney Spears and Justin Timberlake, but also Bob Dylan, Janis Joplin, Aretha Franklin, and Radiohead. *Titanic* and *Avatar*, but also *The Godfather* and *Schindler's List*—cultural industries foster enormous economic benefits.

The movie, music, book, and television industries together account for about one-twentieth of the world's income.³ And not only do the cultural industries generate large amounts of revenue and profit, they also account for a lot of jobs—an estimated 5 percent of workers around the world and 5 million in the United States alone.⁴

The good news: The creative industries—television, books, music, and movies—are among the jewels of the U.S. economy. The possibly distressing news: Digital innovations, including piracy, online streaming, and self-publishing, have turned these industries upside down, threatening both commerce and art in two distinct ways. First, because new technologies deprive the creative industries of revenue, they potentially undermine their ability to invest in new movies, music, and books. Second, perhaps paradoxically, new, inexpensive technologies make it possible for many creators to produce and distribute their work without the curation, permission, nurture, or investment from a traditional gatekeeper, such as a recording label, publishing house, or movie studio. So we face the twin threats of *no* new investment in products and *lots* of new products delivered without costly adult supervision, all of which raises the question: Are we living through cultural Dark Ages, as some critics have argued, or through a digital renaissance?

The goal of the book is to answer that question with systematic empirical evidence.

Risky and Expensive

Understanding how the cultural industries have traditionally worked makes clear the threats delivered by new technologies. How do the creative industries generate commercial and sometimes artistic

gems? There is no magic formula—the cultural industries are expensive and risky. As musical artists and the record labels, as well as movie studios and book publishers, are quick to point out, the creative industries are investment intensive. According to the International Federation of the Phonographic Industry (IFPI), the biggest investors in musicians are the major record labels, which play important roles around the world in discovering, nurturing, and promoting musical talent. The expensive part: Bringing a new artist's album to market costs about a million dollars, and the recorded music industry invests \$4.5 billion per year around the world.⁵ The risky part: Most creative products are not commercially successful.⁶

The film industry spends even more money. It costs a major Hollywood studio more than \$100 million, on average, to produce a movie intended for widespread theatrical release. The biggest-budget movies cost far more: *The Lone Ranger* (2013) cost \$275 million. *Pirates of the Caribbean: At World's End* (2007) cost \$300 million, as did *Spectre* (2015), an entry in the James Bond franchise. *Star Wars, Episode VII: The Force Awakens* (2015) cost \$306 million. *Avatar*, released in 2009, cost \$425 million.⁷

But there are no guarantees in Hollywood. It's very hard to predict which films will turn into profitable products or franchises. *Avatar* earned \$2.8 billion at the international box office, and *The Force Awakens* earned \$2.1 billion, far more than their production budgets. Meanwhile, *The Lone Ranger* earned only about \$260 million, worldwide, less than its production costs, and was a big money loser for its studio.

Goldman's Law: "Nobody Knows Anything"

Screenwriter William Goldman (*Butch Cassidy and the Sundance Kid*, *All the President's Men*, *The Princess Bride*) famously wrote that "nobody knows anything" about which movies will find favor with audiences.⁸ Investors' inability to predict which products will succeed is not limited to movies; it's a generic feature of all of the cultural industries. Most musical albums fail, as do most books and new television shows. If the creative industries are to keep going, they

must generate enough revenue to cover the costs of their successes *and* their failures.

To bring creative works to market, the commercial patrons of the arts—the record labels, movie studios, book publishers, and television networks—engage in two essential activities. First, they screen potential projects and decide to invest in only a tiny fraction of them. Second, they invest large sums in nurturing artists and the works they produce. Consider the music industry. Because the commercial prospects of most albums and artists are not readily apparent, success often requires patience and long-term vision. Most albums do not break even financially, and those that do take time to do so. Relationships between artists and labels transcend the financial. Rather, labels nurture artists, “allowing them to develop their sound, their craft, and their careers.”⁹

Some examples of creative nurture by commercial intermediaries are legendary. An editor at the famous Scribner’s publishing house, Maxwell Perkins, discovered F. Scott Fitzgerald and Ernest Hemingway. Perkins is said to have found his greatest editorial challenge in Thomas Wolfe, whose impressive page output was matched by his attachment to all of his sentences. Perkins struggled to get Wolfe to cut almost 100,000 words from *Look Homeward, Angel*.¹⁰ Bruce Springsteen’s patron, Clive Davis of Capitol Records, supported Springsteen through two unsuccessful albums and paid for the fourteen months of studio time that Springsteen needed to deliver his landmark *Born to Run* album, released in 1975. By May of 2000, the album had sold 6 million copies in the United States.¹¹

According to Kensington Publishing president Steven Zacharius, some publishers describe their role as that of a “father-confessor and cheerleader” who can “serve as a sounding board, pep the author up when necessary, and pull him down if the author goes too over the top.” Moreover, when the book is ready, “the publisher gets behind it with marketing and publicity efforts, and has already given the book the best cover and cover copy that money can buy. The publisher’s money, not the author’s.”¹²

It’s expensive, but the nurture of artists provided by publishing houses, record labels, movie studios, and television networks has

been an important aid to the creation of commercially successful products and great art. I'll refer to this role as "adult supervision" throughout the book.

Digitization and the Threat to Revenue

Technological change has taken the cultural industries on a roller-coaster ride over the past few decades. That ride has included horrifying descents and confusing loops.

The last days of the twentieth century saw the recorded music business going strong. A few popular artists dominated the charts. 'N Sync, Britney Spears, and the Backstreet Boys each sold stunning numbers of records. Two Backstreet Boys albums, released in 1997 and 1999, had sold 14 and 13 million copies by 2001. Britney Spears's . . . *Baby One More Time*, released in 1999, ultimately sold 14 million copies. 'N Sync's eponymous effort released in 1998 sold 10 million, and another album released in 2000 (*No Strings Attached*) sold 11 million. These end-of-the-millennium pop acts joined the ranks of the musical elite. The Beatles, one of the most popular bands in history, had only three albums of original material that out-sold them. *Sgt. Pepper's Lonely Hearts Club Band*, released in 1967, eventually sold 11 million copies in the United States; *The Beatles*, released in 1968, eventually sold 19 million; *Abbey Road*, released in 1969, eventually sold 12 million.¹³

But just after the turn of the millennium, music-industry revenues began to fall. In 2000, after rising almost every year in recorded history, U.S. sales of recorded music fell by 3 percent. In 2001, sales fell again, by another 6 percent. When sales fell yet again in 2002, it became clear that something was amiss.

That "something" had a name: Napster. In 1999, Shawn Fanning, a student at Northeastern University, developed the Napster software to allow peer-to-peer sharing of music files. In effect, Napster permitted users to obtain digital music files without paying for them.¹⁴ Fans no longer needed to go to a record store to buy a CD or an LP. Instead, they chose a song, pressed a few keys, and watched the song arrive on their computer. Napster quickly went viral. At its

2001 peak, 80 million Napster users were stealing large quantities of music.¹⁵

Many people felt little compunction stealing from the major record labels (such as Sony, Warner, or Universal). The retail price of a music CD had risen to almost \$20 in the late 1990s, and lots of fans felt that a typical CD bundled ten lousy songs with two good ones. Stealing seemed to be a justifiable way to avoid paying for potentially disappointing CDs. When they could get music for free, it's hardly surprising that many people stopped paying for it.

The recording industry sued and obtained an injunction, shutting Napster down in 2002. But the plunge in sales continued. By 2005, U.S. music sales were 25 percent below their 1999 peak. By 2012, real U.S. sales had fallen by more than half from their 1999 peak. International sales were off by a similar fraction. Researchers still ponder the causes of the sales drop, but a sober assessment clearly implicates file sharing.

With the launch of the iTunes Music Store in 2003, sales began to recover, or at least slow their decline, as music lovers migrated away from physical albums and toward digital singles. These digital sales grew quickly, to \$1.1 billion by 2005 and to \$3.3 billion by 2012 in real 2016 dollars. In 2012, the growth in digital sales roughly offset the decline in CD sales. By then, a year without a decline in recorded music revenue was something to celebrate. Industry professionals began to hope that the transition to digital sales would restore revenue to its pre-Napster peak. But the roller coaster was poised for another steep descent, this time due to the new streaming services.

Starting around 2010, fans could listen to almost any song on YouTube for the small price of watching an ad. In July 2011, Spotify launched in the United States, giving people access to essentially any song they wanted to hear without paying anything, at least on the ad-supported version of the service. As streaming grew quickly, sales resumed their rapid descent. From 2012 to 2017, the value of U.S. digital downloads fell from \$3.3 billion to \$1.3 billion (in 2016 dollars).

Unlike peer-to-peer file “sharing” via Napster, Spotify streaming is not stealing. YouTube, Pandora, and Spotify pay artists and record companies for the right to stream music. But many artists believe that the payments are too small to support continued music making. In 2013, David Lowery, founder of Camper Van Beethoven and cofounder of Cracker, blogged that his song “Low” was streamed a million times on Pandora, and all he “got was \$16.89,” less than what he makes from a “single t-shirt sale.” The year also saw Radiohead’s Thom Yorke likening Spotify to “the last desperate fart of a dying corpse.”¹⁶

Maybe these artists are paranoid, but that wouldn’t make them wrong; the past two decades have been calamitous for the recorded music business.¹⁷ Technology has repeatedly posed an existential threat to the music industry and even to the creation of new music. The net effect of all this new technology has been terrible for music-industry revenue. Even taking into account the new potential bright spots—digital downloads and streaming—recorded music revenue was down by more than half in real terms between 2000 and 2016.

Digitization and the Threat to Adult Supervision

Amid all the bad news from technological change was the good news of cost reduction. Digital technologies have reduced the costs of producing music, movies, TV shows, and books. For example, inexpensive digital cameras allow video production at a fraction of the former cost. Computers and widely available software make it possible to record music inexpensively. A writer can now produce an e-book with no more equipment than a computer. Moreover, digital distribution—that is, the delivery of audio, video, and text files directly over the Internet rather than through stores or theaters—reduces distribution costs significantly. Finally, new channels for information sharing sharply reduce marketing and promotion costs.

These cost reductions have two potential consequences. First, they allow traditional players in the creative industries (record

labels, book publishers, movie studios, television networks) to adopt new strategies for offsetting reduced revenue that could improve the bottom line. Second, they allow would-be artists to create new works and make them available to consumers without the go-aheads and nurturing investments traditionally provided by the gatekeeping elites. In other words, digitization allows a democratization in which creative dilettantes, or maybe even barbarians, can storm the gates.

The prospect of a surfeit of books, music, and movies created without adult supervision may be more scary than exhilarating. Technology entrepreneur Andrew Keen caused a stir in 2007 with *The Cult of the Amateur*. Like Keen's other writings, *The Cult of the Amateur* raised the concern that "traditional media," which critics denounce as "elitist," are "being destroyed by digital technologies":

Newspapers are in freefall. Network television, the modern equivalent of the dinosaur, is being shaken by TiVo's overnight annihilation of the 30-second commercial. The iPod is undermining the multibillion-dollar music industry. Meanwhile, digital piracy, enabled by Silicon Valley hardware and justified by Silicon Valley intellectual property communists such as Larry Lessig, is draining revenue from established artists, movie studios, newspapers, record labels, and songwriters.¹⁸

The end result is potentially calamitous. As Keen puts it, the "purpose of our media and culture industries—beyond the obvious need to make money and entertain people—is to discover, nurture, and reward elite talent." Without the traditional setup, we will be awash in mediocrity. As Keen argues, if "you democratize media, then you end up democratizing talent." Keen continues, "The unintended consequence of all this democratization is cultural 'flattening.' No more Hitchcocks, Bonos, or Sebalds." Instead, "All we have is the great seduction of citizen media, democratized content, and authentic online communities. And blogs, of course. Millions and millions of blogs." In short, democratization puts the inmates in charge of the asylum.

His point is credible on its face. The major Hollywood studios spend an average of more than \$100 million to bring a movie to market, and the recording industry invests \$4.5 billion per year. The global film industry invested \$22 billion in 2010; the United States alone accounted for \$9.2 billion.¹⁹ New technologies that allow almost anyone to produce books, movies, or music effectively democratize artistic production. But democratization that undermines the established institutions of these industries is a threat to a substantial chunk of gross domestic product and a lot of jobs. It threatens the creation of great art as well.

Would the new democratization ultimately be good or bad for the creation of new cultural products? One possibility is a cultural Stone Age. Without enough revenue to cover costs of production, the movie, music, book, and television industries might grind to a halt and stop releasing new products. Writers and musicians might go back to school and learn how to write code rather than create art. Consumers might have to make do with oldies on the radio and television reruns.

But digitization did not create a cultural Stone Age. Despite the continued revenue woes of the recorded music business, the nightmare scenario for consumers did not materialize. From 2000 to 2010, the number of new songs released by musicians grew from about 30,000 to about 100,000 per year. The number of new movies produced has risen from hundreds to thousands per year. The number of new television programs has grown by similar proportions. Thanks to digital publishing platforms like Kindle Direct Publishing (owned by Amazon) and NookPress (owned by Barnes & Noble), the number of new books is simply off the charts. The number of new self-published book releases reached nearly half a million in 2013.²⁰

Awash in New Products

We are now awash in new products. Tens of thousands of new books and songs arrive each year, along with thousands of new movies that are available with a few clicks of the mouse. But as the gatekeeping

elites might warn us, these bumper crops do not necessarily deliver much benefit to consumers. Pick a random new song; it's not likely to appeal to most people. More accurately, it is likely to appeal to almost nobody. The median number of worldwide permanent downloads (e.g., sales at iTunes) for a song released in the United States in 2011 was twelve units, and the bottom 95 percent of songs garnered just 3.5 percent.²¹ A typical new song is purchased by the band members' mothers and a few friends.

Similarly, the typical self-released book offers page after page of turgid prose and garners very few sales. This distribution of attention is similarly lopsided for movies, too. Of the 3,169 vintage-2012 feature-length films listed on the Internet Movie Database (IMDb), only 2,040 had enough users rating the movie—five—to warrant a public IMDb star rating for the movie. Only 783 movies had 100 or more ratings. In comparison, the fiftieth-most frequently rated movie for the year, *Ice Age: Continental Drift*, received over 111,000 ratings.²² Perhaps Andrew Keen is right that the explosion of creative output contains little more than amateurish garbage.

And all the new stuff would indeed be amateurish garbage if gatekeeping were an exact science. If all the projects worthy of investment had already been green-lighted before the amateurs got hold of democratizing technologies, then by extension the new books, movies, and records created by the hordes would be the stuff that the sages predicted, correctly, would not make the cut. *But what if gatekeeping were not an exact science?* Then the explosion of new works might include a few nuggets of gold alongside the large pile of dross.

Panning for Gold

How might the plethora of new products substantially raise the overall quality of new products? Might the new products be good despite the lack of adult supervision? And even if some of the new songs, movies, and books are good, would consumers find the wheat among the chaff without adult supervision in marketing and promotion? These are all important questions that lack obvious answers.

Although gatekeepers' inability to predict success and failure may seem to dim the prospects of delivering good products generally (remember, "Nobody knows anything"), this same inability paradoxically explains why technological changes could increase the quality of new creative products. To understand why, suppose for a moment (and in contrast to what we actually know) that cultural gatekeepers were able to predict with 100 percent accuracy which new creative works would be successful with consumers.

In that magical world, would-be creators would submit their pitches, drafts, and demo tapes. The gatekeepers would then accurately rank order the acts according to their anticipated revenue. The gatekeepers would sign all of the projects with anticipated revenue above the cost cutoff for bringing them to market. And because the gatekeepers were omniscient, all of the green-lighted projects would deliver revenue in excess of the cost threshold. The least-promising project receiving the go-ahead would just barely cover its costs. When costs fell, the projects with anticipated revenue just below the old threshold would then get the green light, and the number of profitable new projects would rise. More products would become available, and both profits and consumer satisfaction would rise.

But would any of the new products made viable by cost reduction be a major success? No. The new products would literally be marginal or on the threshold of not being worth producing. In fact, they would be less appealing than any of the products brought to market before the cost reduction. And the more that costs fell, the more we would expect a large number of new products with extremely limited appeal. If it cost nothing to bring a new product to market, then even creators expecting almost no fan response could make their product available. In other words, we would expect a slew of mediocre (or downright awful) new products.

But if we add a realistic element of unpredictability to this scenario, then cost reductions can have a much different, and bigger, impact on the quality of new releases. One of the fundamental features of creative products is the unpredictability of commercial appeal at the time of investment. Goldman's law, "Nobody knows

anything,” is buttressed by systematic evidence. As Harold Vogel noted in *Entertainment Industry Economics*, “Perhaps as little as 10 percent of new material” has to generate profits to cover the “losses on the majority of releases.”²³ Another observer of the creative industries, Richard Caves, describes the returns from new cultural products as “highly uncertain,” pointing out that “roughly 80 percent of albums and 85 percent of single records fail to cover their costs.”²⁴

One vivid way to see the unpredictability of a particular type of creative product, movies, is the relationship between the costs of making a movie and the revenue it generates at the box office. Movie producers are generally willing to spend more money on an individual movie if they think the additional investment will yield additional returns. On average, their logic is sound. Take the bottom quarter of U.S. theatrical releases (by revenue) in 2012. These films cost an average of \$7.3 million to produce and delivered an average of \$25 million in box office revenue.²⁵ Films in the next quarter, with budgets averaging \$24.5 million per movie, generated an average of \$40 million in box office revenue. Budget and revenue averaged \$53.5 and \$63 million, respectively, in the third quarter, and \$135.4 million and \$160 million in the top quarter.

While the relationship between budgets and revenues holds on average, there are big departures from the overall pattern. Some big-budget 2012 movies, including *Battleship*, flopped at the box office, while some lower-budget projects (such as *The Hunger Games* and *Ted*) produced surprisingly high returns. These deviations from the overall pattern occur every year, not just in 2012. For example, the 1999 film *The Blair Witch Project* cost \$60,000 to make and generated \$140 million in U.S. box office revenue.²⁶ Similarly, the 2007 feature *Paranormal Activity* cost \$15,000 to make and returned \$108 million at the U.S. box office.²⁷ At the other end of the spectrum is 2012’s *John Carter*, which cost \$264 million and returned a paltry \$73 million at the U.S. box office.²⁸ The 2002 Eddie Murphy vehicle *The Adventures of Pluto Nash* cost \$100 million to make and delivered \$4 million at the U.S. box office.

Across the creative industries, roughly one in ten new creative releases has traditionally covered its costs, and this unpredictability

of returns means that releasing a cultural product is like buying an expensive lottery ticket. Usually, it's a loser. But occasionally, it's a winner. A big reduction in the cost of bringing new music, books, or movies to market means that society can buy many more lottery tickets. Of course, we'll get a passel of additional losers. But what matters to sellers (in terms of revenue) and consumers (in terms of satisfaction or enjoyment) is whether *we also get a few more winners*. If cost reduction raises the number of "lottery tickets" that the economy can issue—that is, if it raises the number of products brought to market and made available to consumers—then creators may deliver some additional winning products that would otherwise not have become available.

There is an important complication, however. Because traditional gatekeepers sifted through projects to select those worthy of investment, one of their functions was to focus consumer attention on the shows and movies worth watching and the music worthy of a listen. In principle at least, gatekeepers saved consumers the trouble of evaluating a large number of products, of sifting through enormous mounds of cultural silt. Those products that made it through the movie studios, record labels, and publishing houses were expected to be good. That was the idea, anyway. But because nobody knows anything, the elite filtering system never really worked. Most of the carefully vetted—one might say "curated"—products were not successful. Nonetheless, the old gatekeeping approach had one undeniable advantage. Even if many products turned out bad, fewer releases meant that consumers faced a less challenging task in choosing what to watch, read, and listen to.

Now, with so many digitally enabled new products, consumers face the mammoth task of finding out what they should attempt to enjoy. Without a champion or gatekeeper, will a good new work get discovered by consumers? The answer is not obvious, but in a "nobody knows" world, cost reduction that raises the number of draws from the urn *could* deliver a *digital renaissance*. And what, exactly, would constitute a digital renaissance? We could say that we are experiencing a digital renaissance if the cost reductions made possible by new digital technologies bring about an outpouring of

new work that includes substantial numbers of good, new works that deliver satisfaction to users and that otherwise would not have made their way to audiences.

Based on the information we've examined so far, digital renaissance is just a possibility. That is, digitization *could* bring about a digital renaissance. Whether it *does* bring about a digital renaissance depends on what actually happens in the aftermath of digitization. Three things need to happen for us to conclude that we're experiencing a digital renaissance. First, we need to see an increase in the number of products created: more movies, more music, more books, more television programs. Second, we need to see the new "outsider" products—those feasible now but which gatekeepers would previously have scotched—make up a growing share of successful products. Third, we need evidence that the new crops of books, music, movies, and television shows appeal to contemporary consumers and critics and, moreover, that the new works compare favorably to earlier vintages.

This book gathers information from a variety of sources—including data on music sales, television schedules, radio airplay, critics' best-of lists, box office revenue, and online music streaming services—to answer a question of great social and economic importance: Have the technological changes, which have democratized the creative industries by allowing more creators access to audiences, debased or enriched society? In this era of fake news and alternative facts, I hope that the empirical data gathered through careful research will also inform discussions between industry advocates and policy makers. Are we living in a golden age of creativity, or are we drowning in cultural silt? Beyond its intrinsic interest, the answer has implications for public policy, including copyright law.

Cultural Products and Copyright

Understanding how new technology affects the cultural industries is interesting in its own right. It would be helpful, after all, to know whether we must resign ourselves to a future of bad music, bad movies, bad books, and bad television. But there are other good

reasons for understanding what's happening. Creative activity takes place in a framework of laws and public policies. Various aspects of public policy, including copyright laws and the aggressiveness of their enforcement, may affect whether consumers can count on a continued supply of new creative products. With the rise of digitization and its attendant threats to continued cultural production, the representatives of the rights holders—that is, creators and their intermediaries—have sought protection, relief, and redress from the government. Their goal is simple: to safeguard their intellectual property and protect their revenue.

Cultural products differ from other consumer products, such as apples or bottles of dishwashing liquid, in a key way. Because technology makes it so easy to copy a cultural product, consumers can enjoy that product—a book, song, movie, or TV show—without paying for it. And when the consumer doesn't pay, the creator receives zero revenue. True, apples can be stolen from the Piggly Wiggly. But shoplifting requires a more outwardly obvious form of theft than discreet, convenient piracy. In Napster's heyday, fans could download unauthorized copies of popular music from the anonymous comfort of their bedrooms and dormitories.

Illegal copying is not a new problem. Charles Dickens complained bitterly about “American robbers,” U.S. publishers who reprinted his works without obtaining permission or offering compensation. He was incensed by these pirate publishers who sold his works to American readers without sending him even “one grateful dollar-piece to buy a garland for his grave.”²⁹ The piracy problem was not addressed until the U.S. Congress enacted the International Copyright Act of 1891, granting protection to foreign works, although (as a concession to unions) only for works printed domestically. Dickens was complaining about wholesale commercial theft (that is, unauthorized editions printed by pirate publishers) rather than copying by users, but the effects on his royalty statement were similar.

The large investment required to bring products to market necessitates some legal protection for these investments. If a new record, book, or movie finds an audience, it's important to compensate the

artist and the investors for the direct costs they incurred and the risks they took. For that to happen, the enjoyment generated by the product must be turned into revenue. After all, the investors need payback from the relatively few winners—that is, the ultimately successful projects—to cover the costs of bringing all the unsuccessful works to market. Which brings us to intellectual property and the need to protect it.

The Necessary Evil of Intellectual Property Protection

The U.S. Constitution authorizes Congress “to promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.” In other words, Congress can grant patents and copyrights, which are exclusive rights to sell. Patents cover inventions, like the light bulb or the steam engine, while copyrights cover creative works, like books and music, as well as software. If you invent something useful, you can apply for an exclusive right to sell it for about twenty years. Write, compose, or record something, and you get an even longer period to be the lone seller of the work and therefore have a “monopoly.” Since the U.S. Copyright Term Extension Act of 1998, also known as the Sonny Bono Copyright Term Extension Act, U.S. copyright lasts as long as an author lives, plus 50 years. If the creator is a corporation, such as the Walt Disney Company, the copyright lasts 75 years.³⁰

Economists have long disagreed on issues that are important to the public, such as government spending.³¹ But economists agree that, all things being equal, monopolies are bad. When a good or service is sold by only one seller, its price will be higher than it would have been with multiple sellers. As a result, the product will be less widely used than it otherwise would have been. So what were the framers of the Constitution thinking when they granted monopoly rights to creators of new products and processes?³²

The rationale for granting copyright monopolies is that creative activity requires investment. Without an exclusive right to sell, creators would see their work copied and sold by competitors who

would not share the proceeds. The creators would not be able to recoup their investment and therefore would not create and bring new products to market.

For some products, the necessary investments are enormous. The pharmaceutical industry reports that it costs over a billion dollars to bring a new drug like Lipitor (which treats high cholesterol) or Humira (which treats arthritis) to market.³³ Without a guaranteed monopoly, pharmaceutical companies could not afford the investment required to invent new treatments. Many investments in the copyright realm of books, movies, and music are also significant, as we saw earlier.

In a nutshell: While all monopolies are in some sense harmful, they also can serve the important function of providing a financial reward sufficient to finance investment in new products, including new books, new music, and new movies.³⁴

The Intellectual Property Protection Dilemma

The monopolies that result from protecting intellectual property allow owners to charge prices that prevent some efficient instances of consumption. But what exactly does *efficiency* mean?

If you were appointed philosopher-king or philosopher-queen, then one of your responsibilities would be to decide which products to greenlight. If you were an efficient despot, you would choose to make a product if the benefit of doing so—specifically, the amount of money corresponding to the sum of how much each potential buyer is willing to pay—exceeded the costs of bringing the product to market. In the case of a cultural product like a book, these costs include whatever you need to pay the author to write the book, plus what it costs to produce and distribute the work.

Reality doesn't work quite this way. Sellers typically have to choose a single price to charge to all people, recently around \$30 for new hardcover books and \$15 for new music albums. Given a single price charged to all buyers, it is generally not possible to convert all of the potential consumers' willingness to pay into revenue. As a result, not all worthy products get made. Instead, markets bring forth

products whose expected revenue exceeds their costs. When revenue exceeds costs, the product is profitable.

This dose of reality requires a closer look at costs. Those who bring a new work to market typically incur two kinds of costs. The first is the potentially large *fixed cost* of creating the first copy. In the case of a new novel, this fixed cost includes all of the time and money spent writing, editing, typesetting, and promoting the book. In the case of a first album by a newly discovered band, it includes all of the investment required to nurture the band, record its music, create a master copy of the recording, and promote the album. Second are the per-unit, or *marginal*, costs of production and distribution. For tangible products, these include the costs of printing or pressing, distributing, and selling.

Your next decision as philosopher-monarch would be to choose a price. Suppose it costs \$5,000 to create the first copy of a book, but because of digitization it costs *nothing* to distribute and sell each additional copy. So, what price should you charge, Your Highness? Giving the book away for free (charging \$0) has something to recommend it. *Given that the product already exists*, free is the price that maximizes the net benefit that buyers and sellers *as a whole* derive from the book.

To understand why any price above zero creates a problem by inhibiting some beneficial instances of use, suppose you choose a price other than \$0, such as \$5. In that case, people willing to pay \$5 or more will get the book, while those willing to pay *something* but less than \$5 will not. The \$5 price thwarts opportunities to make the world a better place, in the modest way that economic activity accomplishes that lofty objective. Whenever a buyer is willing to pay more than it costs the seller to deliver another unit of a product, there is an opportunity for a little bit of economic nirvana. Here's why: It costs you \$0 to produce another copy, and I'm willing to pay \$4. If we agree on a price of \$2, then you (the seller) are adding \$2 to your profits, and I'm getting a bonus too: I'm getting something I value at \$4 for the low price of \$2. That \$2 difference between the value I attach to the item and what I pay is called *consumer surplus*. But if you've chosen a \$5 price when I'm only willing to pay \$4, this mutually beneficially exchange cannot happen.

Despite the seeming efficiency of pricing the book at its marginal cost of \$0, this approach has a glaring problem: The price does not generate revenue to help cover the first-copy costs incurred by the creators and investors. Compensating them requires a price above the marginal cost of \$0, so that each unit sold generates some excess of revenue over marginal costs to recoup the \$5,000 first-copy cost. And, yes, this excess revenue can potentially generate some profit. Indeed, without the ability to cover costs and make some profit, it is reasonable to worry that producers might stop creating new works.

Here's where the dilemma comes in. Suppose that a price of \$5 will bring the sellers the most possible revenue, including a sufficient excess of revenue over cost to recoup first-copy costs. People willing to pay \$5 or more get the book. Those who value it *above* \$5 get some consumer surplus, and the sellers cover their costs and make a profit. So these two groups are happy. But another group is inefficiently unserved in this scenario: Everyone willing to pay between the book's \$0 marginal cost and its \$5 price will go without the book, even though they were willing to pay more than the \$0 marginal cost of providing an additional copy.

The notion that a price above marginal cost inhibits some valuable consumption opportunities is not just some long-haired "property is theft" rationale for nationalizing the cultural industries. When an additional copy costs you \$0 to produce, and you turn away a buyer willing to pay \$4, you have missed an opportunity to add to your profits. That's a crying shame from a purely capitalist perspective.

There is a way out here, but it requires the seller to be a little bit sneaky, as in "Psst. Yeah, you. Wanna buy a copy for \$4? Don't tell anyone . . ." Suppose everyone willing to pay the \$5 price already bought the book, generating revenue in excess of the costs. Now think of a hypothetical interaction with a person willing to pay \$4. If you could sell the book to that person for \$4, you would contribute an additional \$4 to your profit. But doing so without angering those who already paid \$5 is challenging.

Unless the seller can charge different prices to different people, a practice called *price discrimination* (more on that in chapter 8's

discussion of bundling), he or she will not be able to squeeze out all that extra profit and sell to every potential buyer. Instead, the seller will have to go with an across-the-board price like \$5, which inefficiently denies access to the consumers attaching a positive but low value to the book. This is the harm from monopoly and the resulting dilemma. But because we as a society favor continued creation, just as the framers of the Constitution did, we have chosen to live in a world of monopolies that compensate creators enough to keep them creating. We accept a bad thing—some inefficient denial of access—in exchange for a good thing: sufficient excess of revenue over costs to maintain incentives for creation.

Technology and Effective Intellectual Property Protection

In reality, books, movies, TV shows, and music are protected by a combination of law and technology. In short, the harder it is to make and market copies of a work, the more protection a creator has.

Let's use books as an example. Since the invention of the printing press in the mid-fifteenth century, it has been possible to make copies of books. With the invention of the photocopying machine in 1959, anyone could copy pages from books. But even with a Xerox machine and other early technologies, copying an entire book was rather cumbersome and costly. The process takes hours of standing over a hot machine, as well as about 5 to 10 cents per page. The annoyance and the cost might be worth it to a reader if a book were priced at \$500, but given the typical price of a new book (a few dollars in the 1960s, and not much higher for many paperback books today) few readers found it worthwhile to copy a book page by page. Thus copyright law's threat to punish unauthorized copying, along with the cumbersome copying technology, kept consumers willing to pay publishers for books.

Music was similarly difficult to copy a few decades ago. Prior to the 1970s, few people had tape-recording technology. With the diffusion of the cassette tape, many people gained the ability to copy. But copies had poor sound quality, and second-generation copies made from tape copies were abysmal. The price of an album, around

\$4 in the 1970s, made the real thing attractive, relative to copies made with cassette recorders.

The arrival of digitization changed both the cost and the attractiveness of copies. Text, audio, and video could now all be stored in computer files. Once the Internet became reasonably fast, these files could be shared over networks costlessly and anonymously. What's more, the quality of the copies was generally good. So even though the law had not changed, the amount of protection effectively afforded to intellectual property fell sharply with digitization. To compensate for the weakening wrought by technology, many observers began to call for reforms to intellectual property law and its enforcement.

What Do Rights Holders Want?

Representatives of the major media industries make four points about the effects of new technologies on the continued success of their industries. First, there is a lot of piracy. Second, this piracy deprives the industry of revenue. Third, revenue lost to piracy is a threat to income and jobs, and not just the outsized incomes of glamorous people. Fourth, lost revenue is a threat to continued creativity. All of these points, they argue, support government action to bolster copyright protection. Notably absent from the discussions, however, are the ways in which new technologies can help media firms and creators by reducing costs.

Over the years, media firms have sought relief in the courts, suing those who pirate content as well as owners of websites offering pirated materials. These measures have had mixed success, alienating some consumers without eliminating piracy. More recently, media firms have proposed laws to make it more difficult for sites trafficking in pirated material to do business. Proposals include forbidding search engines from delivering results that include links to pirate sites and forbidding credit card companies from allowing payments to sites identified as pirates. These may be good ideas, but many observers worried about these threats to Internet freedom in the proposed laws known as the Stop Online Piracy Act and the Prevent

Internet Piracy Act in 2011. Public opposition to these bills was surprisingly strong; Wikipedia went dark for a day in protest. Both bills failed to become law.³⁵

Representatives of the content industries have pressured policy makers to adopt measures to undo the new technologies' negative effects on their revenues, largely framing their arguments around jobs and continued creativity. For example, in 2016, former senator Christopher Dodd, the head of the Motion Picture Association of America (MPAA), gave a speech to theater owners. First, he described the industry's excellent performance in 2015, including a global box office record of \$38.3 billion, an increase of \$2 billion over the previous record. A few sentences later, however, he pivoted from presenting good revenue news to advocating for policies to prevent revenue losses from piracy: "In order for these markets to continue to grow, we should not lose sight of the tremendous importance of protecting our content." Without online piracy, Dodd said, "box office receipts would be 14 or 15 percent higher."³⁶

Understanding what motivates politicians, MPAA representatives also focused on threats to jobs. Dodd noted that eliminating piracy would bring "a potential \$1.5 billion increase in box-office receipts in the United States. \$1.5 billion more for cinemas, studios, and importantly, the 1.9 million Americans whose daily jobs depend on our industry."³⁷ And, when testifying before the House Judiciary Committee at a hearing about the Stop Online Piracy Act, the MPAA's Michael O'Leary said, "Fundamentally, this is about jobs. The motion picture and television industry supports more than two million American jobs in all 50 states." He went on to tell the story of Hollywood's "hard-working people behind the scenes . . . men, women, and their families, [for whom] online content theft means declining incomes, reduced health and retirement benefits, and lost jobs."³⁸

Author Scott Turow (*Presumed Innocent, One L*), head of the Authors Guild, has offered similar testimony. Speaking before the Senate Judiciary Committee, he observed that "after 300 years as one of history's greatest public policy successes, copyright is coming undone." Noting that piracy "has all but dismantled our recorded

music industry,” Turow spoke to the Authors Guild worry that weakened copyright protection will undermine author income.³⁹ “Effective copyright protection is the linchpin of professional authorship,” Turow said. “It enables authors to make a living writing.”⁴⁰

Some government officials echo these concerns. In her testimony before the House Judiciary Committee at the Stop Online Piracy Act hearings, Librarian of Congress Maria A. Pallante argued, “The more these kinds of actions go unchecked, the less appealing the Internet will be for creators of and investors in legitimate content. In other words, Internet piracy not only usurps the copyright value chain for any one work, it also threatens the rule of copyright law in the 21st century.”⁴¹

Interestingly, the Recording Industry Association of America (RIAA) has offered a more nuanced argument than the MPAA or the Authors Guild, culminating in a focus on consumers. In 2012, RIAA head Cary Sherman testified on “The Future of Audio” before the House Subcommittee on Communications and Technology. He started out by emphasizing revenue losses due to piracy: “Nearly every academic study, and nearly every economist—not to mention common sense—has concluded that illegal downloading has hurt us badly.”⁴²

Sherman continued:

What kind of harm? Massive layoffs, of course. But also less money to invest in artists. That means fewer artists on our rosters, fewer people who can make a living from music, fewer songs permeating through our culture that help form a piece of our national identity. In fact, according to Bureau of Labor Statistics data from the federal government, the number of people who identify themselves as “musicians” has declined over the last decade, conspicuously tracking the decline of the industry.⁴³

In short, Sherman argued, new technology will lead to lower employment. He went on to emphasize the stake of both producers and consumers in this issue: “Piracy is not just a parochial corporate problem. This is an issue that affects many industries, our economy, our culture, tens of thousands of creative individuals, and most

importantly, the consumers who enjoy the music we create.” Let me excerpt from that last sentence while adding emphasis: “*Most importantly,*” this issue affects “*the consumers who enjoy the music we create.*”

The Right Question

The interested parties who speak at congressional hearings are people and organizations feeling the pain of technological change. Whether they are representatives of the recorded music, motion picture, television, or book industries, they can point to hard data documenting threats to, and in some cases declining, revenue. These data confirm their industries’ financial distress, which is potentially consistent with a larger problem requiring legal redress. But threatened or declining revenue does not tell us whether the copyright system is functioning well.

While the big question for media firms, like all private firms in a market economy, is “What’s happening to my revenue and profit?” the big copyright-related question for consumers and society as a whole is different: “What will happen to the quantity and quality of new cultural products?” If we’re thinking about the purpose of copyright law, our concern is not revenue per se. Rather, our concern is revenue only inasmuch as revenue is needed to finance the production of new cultural products.

So how do we assess the effectiveness of intellectual property law? The best measure is not the revenue or profits of creators or intermediaries, although that measure is indeed relevant to what matters. Rather, the best way to evaluate an intellectual property regime is through the creative activity it engenders. Does the monopoly right granted by intellectual property policy provide enough reward to cover creators’ costs of undertaking the worthy projects? This important point is sometimes lost in policy discussions of intellectual property issues.

Idealists and naïve professors like me believe that disagreements stem ultimately from different understandings of the facts. If we can just get the facts straight, then we can resolve our differences. Cary

Sherman notes that what matters here—“most importantly”—is whether music continues to be created and brought to market so that consumers can enjoy it. In the film industry, by extension, the question is whether consumers will continue to see a large number of good new movies made, not whether movie studios will continue to pay a large number of actors, caterers, production assistants, best boys, and gaffers.

So perhaps we can resolve any disagreements if we can just determine whether the technological changes of the past few decades have stimulated or depressed the flow of enjoyable new products for consumers. And to be clear, even if repetitive, the question is not whether consumers enjoy stuff because they are getting it without paying for it. Instead, the question is whether musicians, writers, and filmmakers are continuing to create their artistic works and bring them to market, so that consumers can obtain valuable, satisfying new products.

Which brings us back to jobs. Job loss is a useful barometer of creative output if the disappearing jobs reflect a contraction in new-product creation because of stealing. But technological change often reduces costs by substituting machines for workers. While the associated job loss is unquestionably bad news for the workers whose jobs are eliminated, technological change that reduces costs is generally good news for everyone else. Think again about the music industry, where it became possible to distribute music without pressing files onto compact discs enclosed in plastic cases and that god-awful shrink wrap. With electrons replacing many CDs, there is less need for truck drivers and record-store clerks and managers. These jobs were lost, but the cost of delivering a song, or a bundle of twelve songs, to a consumer fell from \$5 or \$10 to a few pennies. The out-of-work truckers and clerks are undoubtedly worse off. But presuming that their labor can be engaged elsewhere (perhaps as taxi drivers or clerks at Target), society is better off. While of paramount importance to the people who hold them, the jobs in an industry are a highly imperfect barometer of whether that industry is functioning well, at least from a consumer perspective. In 1820, U.S. agriculture employed 72 percent of American workers;

it now employs under 2 percent.⁴⁴ We still grow most of our own food, and we're obviously not starving. So, when evaluating industries, the question for society is not how many jobs the industries have, it's whether the industries continue to deliver a steady supply of good new consumer products. And do they?

This Book's Content and Organization

The remainder of the book aims to answer the questions posed above. Part I, consisting of chapters 2–6, documents the evolution of creative output, in music, movies, television, books, and photography. Based on solid empirical evidence, are we experiencing a digital renaissance? In each chapter, I begin by explaining how the industry operated before the digital revolution. I then present evidence about the quantity and quality of new products being produced by that industry. Chapter 7 takes stock of the evidence, asking whether we're in the midst of a digital renaissance or pile of cultural silt, and discusses the size of the benefits from digitization.

Part II turns to what's new in, and what's next for, the creative industries, including the new business practices made possible by digital technological change. Chapter 8 explains how digitization helps with the “nobody knows” problem by creating the equivalent of a minor-league system, allowing investors to make large investment decisions in light of farm team (indie, self-published, self-produced) track records. Chapter 8 also discusses the “bundling” strategy used by Spotify, Netflix, and other “all-you-can eat” services that provide access to music or video programming for a flat monthly fee.

Chapter 9 then compares the experiences of Hollywood and Bollywood to provide insight into how we should think about piracy, and Chapter 10 explores the implications of digitization for world trade in cultural products. Is digitization strengthening small-country Davids, or does it firm up an Anglophone Goliath? Chapter 11 discusses the possibility that new technology will inhibit creativity by fostering new gatekeepers.

Chapter 12 concludes with some suggestions about how consumers, policy makers, and cultural critics should respond to the fruits of digital technological change.

When Batman and Robin hit on a plan to take down a dastardly villain in the campy 1960s *Batman* television program, they jumped into action by saying, “To the Batmobile!” There followed a quick exit from the Batcave in pursuit of the costumed villain and his or her henchmen. While economics is not always as exciting as Batman’s 1960s gadget-dependent exploits, I nevertheless view spelunking into data to answer a question as an adventure in its own right. So join me as we go “to the Batmobile!”