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Volume 20 | Issue 1

Article 2

September 2012

Copy Game for High Score: The First Video Game Lawsuit

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William K. Ford, *Copy Game for High Score: The First Video Game Lawsuit*, 20 J. INTELL. PROP. L. 1 (2012).
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JOURNAL OF INTELLECTUAL PROPERTY LAW

VOLUME 20

FALL 2012

NUMBER 1

ARTICLES

**COPY GAME FOR HIGH SCORE: THE FIRST
VIDEO GAME LAWSUIT**

*William K. Ford**

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* Assistant Professor of Law, The John Marshall Law School. The title of the Article is, of course, an homage to Atari's *Pong*, for which the key instruction was: "Avoid Missing Ball for High Score." See *Pong* (Atari 1972). Thanks to Shannon Ford, Raizel Liebler, Kimberly Regan, and Dave Schwartz for comments on earlier drafts.

"See, like I said, th[e] video game is yesterday's newspaper"

—David Braun, Chairman and Chief Executive Officer,
Allied Leisure Industries, Inc., June 14, 1974¹

I. INTRODUCTION

Commentators and industry historians generally agree that the multi-billion dollar video game industry began forty years ago in November 1972 with Atari's release of *Pong*.² *Pong* is among the simplest of video games: a version of ping pong or tennis requiring little more to play than a ball, two paddles, a scoring indicator, and a couple of memorable sounds.³ While it was not the first video game,⁴ *Pong* was the first video game hit.⁵ As such, *Pong* demonstrated the

¹ Deposition of David H. Braun at 40, *Magnavox Co. v. Bally Mfg. Corp.*, No. 74 C 1030 (N.D. Ill. July 18, 1974) (deposition taken June 14, 1974) [hereinafter *Braun Deposition*].

² See, e.g., *The Story of Pong*, RETRO GAMER no. 104, 2012, at 22, 29 ("The impact of *Pong* on the industry simply cannot be diminished."); HAROLD GOLDBERG, ALL YOUR BASE ARE BELONG TO US: HOW FIFTY YEARS OF VIDEOGAMES CONQUERED POP CULTURE 21 (2011) ("[T]he age of the videogame arcade was born."); TRISTAN DONOVAN, REPLAY: THE HISTORY OF VIDEO GAMES 29 (2010) ("*Pong*'s popularity sent shockwaves through the amusement business. . . . The success of *Pong* restructured the amusement business."); Matt Barton & Bill Longuidice, *The History of Pong: Avoid Missing Game to Start Industry*, GAMASUTRA (Jan. 9, 2009), http://www.gamasutra.com/view/feature/132293/the_history_of_pong_avoid_missing_.php ("Although it wasn't the first, Atari's *Pong* was the first video game to get the ball rolling—or bouncing, as it were."); MARTIN CAMPBELL-KELLY, FROM AIRLINE RESERVATIONS TO SONIC THE HEDGEHOG: A HISTORY OF THE SOFTWARE INDUSTRY 269, 272 (2003) ("It is not an overstatement to say that *Pong*, produced by Atari, was the springboard for today's vast computer entertainment industry." (italics added)); *Modern Marvels—Video Games: Behind the Fun* (History Channel television broadcast Oct. 9, 2000) (available on DVD from A&E Home Video), at 15:26 ("Odyssey, the world's first home video game, was a moderate success, but another game [*Pong*] took America by storm."); Peter W. Bernstein, *Atari and the Video-Game Explosion*, FORTUNE, July 27, 1981, at 40 ("In the beginning, there was *Pong*, the electronic version of table tennis that sparked the creation of a new industry." (italics added)). A notable dissenter from the view that *Pong* started the industry is Ralph Baer, the lead designer of the Magnavox Odyssey home game console released in 1972. See RALPH H. BAER, VIDEOGAMES: IN THE BEGINNING 7 (2005) [hereinafter *BAER, VIDEOGAMES: IN THE BEGINNING*] ("A look at the . . . detailed data of Magnavox videogame sales will put the nonsense about *Pong* having started the industry to rest."). Cf. Ralph H. Baer, *Foreword* in THE MEDIUM OF THE VIDEO GAME, at xiv–xv (Mark J.P. Wolf ed. 2001) ("PONG launched the arcade video game industry with a bang." (emphasis added)).

³ See *Pong* (Atari 1972).

⁴ For discussions of the earliest computer and video games, see DONOVAN, *supra* note 2, at 3–13; John Anderson, *Who Really Invented the Video Game?*, CREATIVE COMPUTING VIDEO AND ARCADE GAMES, Spring 1983, at 8; Notice of Prior Art by Atari, Inc. and Sears, Roebuck and Co. at 8, *Magnavox Co. v. Bally Mfg. Corp.*, Nos. 74-1030, 74-2510, 75-3153, 75-3933 (N.D. Ill. May 26, 1976); Sam Shatavsky, *Games Computers Play*, POPULAR SCI., Oct. 1970, at 44.

commercial viability of video games, and its success quickly generated a new industry, initially one of close imitators. Early on, much of what the industry produced was unlicensed copies and derivatives of *Pong*.⁶ *Pong* itself was inspired by a game called *Table Tennis* for the Magnavox Odyssey, the first home video game console.⁷ With so much unauthorized copying of a successful product occurring, it is not surprising that a lawsuit resulted in the fall of 1973,⁸ one that predates the more well-known litigation over the so-called “Pong Patent,” U.S. Reissue Patent No. 28,507 (the ‘507 patent).⁹

The 1973 suit, likely the video game industry’s first lawsuit of any type,¹⁰ was between two of Atari’s competitors, Allied Leisure Industries, Inc. and Midway Manufacturing, Inc.¹¹ The dispute involved Allied Leisure’s mechanical drawing of a printed circuit board, meaning the drawing or “artwork” depicting the layout of one of the typically green boards found in many electronic devices.¹² Specifically, Allied Leisure claimed Midway had infringed its copyright in a drawing of a printed circuit board for its four-player tennis game, basically a four-player version of Atari’s *Pong*.¹³ FIGURE 1 provides a small excerpt from the drawing attached to Allied Leisure’s complaint. Allied Leisure also included a related claim against Midway for unfair competition.¹⁴ The case settled in April 1974 before a decision on the merits could be rendered.¹⁵

⁵ See *supra* text accompanying note 2.

⁶ See, e.g., GOLDBERG, *supra* note 2, at 30 (“[F]orty companies made knockoffs [of *Pong*].”); DONOVAN, *supra* note 2, at 29 (“Within a year of *Pong*’s debut . . . more than 15 companies had piled into the coin-operated video game business that once was Atari’s alone.”); STEVEN L. KENT, THE ULTIMATE HISTORY OF VIDEO GAMES 61 (2001) (“Within three months of *Pong*’s release, competitors with names like *Electronic Paddle Ball* started to surface.”); *A Red-Hot Market for Video Games*, BUS. WK., Nov. 10, 1973, at 213 (“Atari’s instant success has inspired a dozen or more companies to jump into the manufacture of video games, some of them outright copies of *Pong*.”).

⁷ See *infra* Part II.B.

⁸ See Complaint, *Allied Leisure Indus. v. Midway Mfg. Co.*, No. 73 C 2682 (N.D. Ill. Oct. 19, 1973).

⁹ See U.S. Patent No. Re. 28,507 (filed Apr. 25, 1974); Steve Chang & Ross Dannenberg, *The Ten Most Important Video Game Patents*, GAMASUTRA (Jan. 19, 2007) (ranking the ‘507 patent as the most important video game patent of all time), http://www.gamasutra.com/features/20070119/dannenberg_06.shtml.

¹⁰ The earliest cases discussed in the literature are part of the litigation involving the ‘507 patent. See, e.g., JON FESTINGER, VIDEO GAME LAW 7–12 (2005); KENT, *supra* note 6, at 46–48, 368.

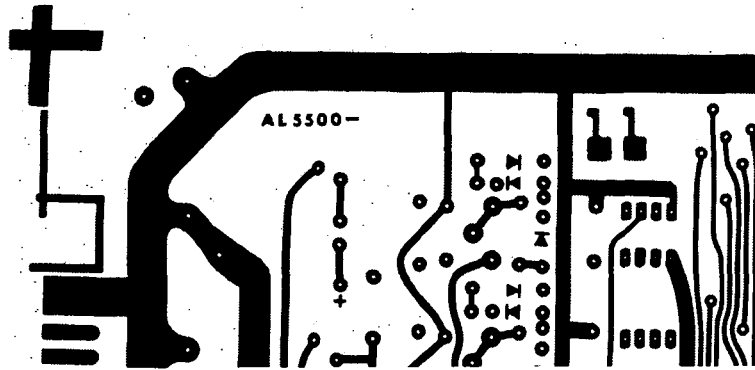
¹¹ See Complaint, *Allied Leisure Indus.*, *supra* note 8, at 1.

¹² See PREBEN LUND, GENERATION OF PRECISION ARTWORK FOR PRINTED CIRCUIT BOARDS 10 (1978).

¹³ Complaint, *Allied Leisure Indus.*, *supra* note 8, at 3.

¹⁴ See *id.* at 1.

¹⁵ See Stipulated Dismissal Order, *Allied Leisure Indus. v. Midway Mfg. Co.*, No. 73 C 2682 (N.D. Ill. Apr. 12, 1974) (dismissing the case “with prejudice to any action based upon any acts

FIGURE 1: EXCERPT FROM ALLIED LEISURE'S PRINTED CIRCUIT BOARD DRAWING¹⁶

The *Allied Leisure* lawsuit is missing from the existing literature, both popular and academic, on the video game industry.¹⁷ This Article provides an account of the case. Why focus on a forgotten and unknown case that quickly settled? Even with Atari on the sidelines of the case, the story of *Allied Leisure* is a significant part of the story of *Pong*, the game that started the video game industry. The case is interwoven with the major events of the industry's birth. *Allied Leisure* should be of interest to industry historians for this reason, but the case should pique the interest of scholars concerned with the legal history of the video game industry. An analysis of *Allied Leisure* shows the very limited scope of intellectual property protection available to game manufacturers at the industry's origin. In particular, it demonstrates the limits on the protection available both under the law of copyright and the law of unfair competition. Some forms of intellectual property protection were, of course, available. The frequently referenced—and frequently misunderstood—litigation over the '507

occurring prior to December 26, 1973") [hereinafter Stipulated Dismissal Order-*Allied*].

¹⁶ Complaint, *Allied Leisure Indus.*, *supra* note 8, at attachment.

¹⁷ For concise histories of the industry, see GREG LASTOWKA, *VIRTUAL JUSTICE* 29–48 (2010); CAMPBELL-KELLY, *supra* note 2, at 269–301. For a history of the early years of the industry, see *BEFORE THE CRASH: EARLY VIDEO GAME HISTORY* (Mark J.P. Wolf ed., 2012). For comprehensive histories of the industry's history, see DONOVAN, *supra* note 2; VAN BURNHAM, *SUPERCARDE* (2001); LEONARD HERMAN, *PHOENIX: THE FALL AND RISE OF VIDEOGAMES* (3d ed. 2001); KENT, *supra* note 6. The books by Lastowka, Campbell-Kelly, Wolf, and Burnham are examples of academic press publications. The MIT Press is probably the leading and most prolific academic publisher of books on video gaming and other computer-related subjects. See, e.g., MIT Press, *COMPUTER SCIENCE AND INTELLIGENT SYSTEMS* 32–37 (2011) (cataloging MIT's "Game Studies" publications).

patent demonstrates the availability of patent protection for at least some game related innovations.¹⁸ The enforceable claims in the '507 patent involved a very basic game play mechanic in a video game.¹⁹ Put simply, the patent covered video games in which a player-controlled symbol struck a game-controlled symbol and caused the game-controlled symbol to move in a new direction.²⁰ Many video games infringed this broad patent.²¹ Patents, however, are usually much more costly and difficult to obtain than other forms of intellectual

¹⁸ The '507 patent litigation is often described in terms of copyright infringement. The claim is made that the decisive fact for proving infringement was Nolan Bushnell seeing Magnavox's *Table Tennis* game before assigning Al Alcorn to design *Pong*. See, e.g., HERMAN, *supra* note 17, at 15 ("Upon *Pong*'s release Magnavox quickly sued Atari for copyright infringement . . . As far as the judge was concerned, the founder of Atari plainly copied the *Odyssey* game."). In the earliest major decision on the '507 patent, the district court judge did consider Bushnell's copying of *Table Tennis* relevant to the case, but only to the question of whether the patent was invalid for being obvious. See 35 U.S.C. § 103 (1976) ("Conditions for patentability; non-obvious subject matter."); *Magnavox Co. v. Chi. Dynamic Indus.*, Nos. 74 C 1030, 74 C 2510, 1977 U.S. Dist. LEXIS 17996, at *5–6 (N.D. Ill. Jan 10, 1977) ("Another factor that I took into consideration on the question of the obviousness of the '507 invention is the fact that it was imitated by others, and that is quite clear from the evidence in the case of the *Pong* game. . . . When [Bushnell] did see the *Odyssey* game, what he did basically was to copy it." (italics added)).

¹⁹ The term "mechanic" may be unfamiliar in this context, but as early as the 1960s the term has been widely used to describe game processes or methods, initially in board games and later in other types of games. See, e.g., RICHARD ROUSE III, *GAME DESIGN THEORY & PRACTICE* 361–66 (2d ed. 2005) (discussing the "Game Mechanics" section of a game design document); Richard C. Giberson, *Jutland Play-by-Mail*, *THE GENERAL*, July–Aug. 1968, at 9 ("This article will deal with the mechanics of play."); Donald Greenwood, *Buyers' Guide*, *THE GENERAL*, Mar.–Apr. 1967, at 4 (describing Avalon Hill's *D-Day* wargame as having "easy mechanics").

²⁰ See *Magnavox*, 1977 U.S. Dist. LEXIS 17996, at *4 ("I do not regard the circuitry of the '507 patent as containing anything which is novel or patentable. I believe that the novelty and patentability reside entirely in this feature of the player-controlled hitting symbol, which coincides with a hit symbol and causes a distinct change of direction in the motion of the hit symbol, whether that change in motion be from a moving position or from a stopped position of the hit symbol."); see also Ralph Baer, *Video Game History: Getting Things Straight*, in *BEFORE THE CRASH: EARLY VIDEO GAME HISTORY* 225, 228 (Mark J.P. Wolf ed., 2012) ("The lawsuits were mainly about infringing on those claims in our patents that dealt with the interaction between machine-controlled and manually controlled symbols on screen. If there was a change in the path, direction, or velocity of the machine-controlled symbol immediately after 'contacting'—that is, coming into coincidence with one of the manually controlled symbols on screen—then the game exhibiting these functions infringed our patents."). For a more detailed breakdown of the relevant claims in the '507 patent, see *Magnavox Co. v. Mattel, Inc.*, No. 80 C 4124, 1982 U.S. Dist. LEXIS 13773, at *8, *26–59 (N.D. Ill. July 29, 1982).

²¹ The courts enforced the '507 patent against a broad range of games. It was not limited to tennis games or even sports games with balls. See, e.g., *Magnavox Co. v. Activision, Inc.*, No. C-82-5270-CAL, 1986 U.S. Dist. LEXIS 30999, at *11 (N.D. Cal. Mar. 13, 1986), *aff'd*, Nos. 86-1263, 86-1334, 1988 U.S. App. LEXIS 6059 (Fed. Cir. May 9, 1988) (listing infringing games).

property protection.²² The *Allied Leisure* case demonstrates the limitations of two less costly sources of protection that might have been expected to prevent the copying of games.

This Article is organized as follows: Part II provides the historical background of the *Allied Leisure* case, including the origin of *Pong* and the subsequent development of the games by Allied Leisure and Midway that were at issue in the lawsuit. This section also describes the competitive environment of the early video game industry, an environment in which copying was common. A brief summary of this section may be helpful to those unfamiliar with the industry's early history: Atari created *Pong*, a two-player tennis game. Allied Leisure, along with many other competitors, copied *Pong*'s design without a license from Atari and then sold the games using its own name and trademark.²³ Midway, by contrast, licensed Atari's design, probably because of its ongoing relationship with Atari. Allied Leisure subsequently produced a modified version of its two-player tennis game playable by four players. Midway copied that design without a license. As a result, Allied Leisure sued Midway for copyright infringement and unfair competition.

Part III describes this lawsuit and provides some context for the settlement, but it is primarily a doctrinal analysis of Allied Leisure's copyright and unfair competition claims. On the merits, this Article argues that Midway had the clear edge over Allied Leisure, despite Midway's copying of Allied Leisure's design. Setting aside the patent issues, copying these early games was legal, given the state of the law in the early 1970s.

Part IV concludes. While the limited intellectual property protection initially available may not have been harmful to the industry's early development, the conclusion briefly explains why additional protection was needed and how it resulted primarily through changes in the copyright laws.

A comment about sources: This Article is based in substantial part on the case files from the *Allied Leisure* lawsuit and the later litigation involving the '507

²² See, e.g., *Vacheron & Constantin-Le Coultre Watches, Inc. v. Benrus Watch Co.*, 260 F.2d 637, 645 (2d Cir. 1958) (discussing differences between the patent and copyright systems); Elizabeth L. Rosenblatt, *A Theory of IP's Negative Space*, 34 COLUM. J.L. & ARTS 317, 351 (2011) (noting the differences in obtaining patent, copyright, and trademark protection); Richard H. Stern, *The Bundle of Rights Suited to New Technology*, 47 U. PITT. L. REV. 1229, 1247 (1986) (noting the differences in obtaining patent and copyright protection).

²³ Trademark protection was of course available to early game manufacturers, but this protection would not have been sufficient to prevent competitors from copying each other's games and then selling the games under their own trademarks. See generally 15 U.S.C. §§ 1051–1127 (1970); Joseph P. Bauer, *A Federal Law of Unfair Competition: What Should Be the Reach of Section 43(a) of the Lanham Act?*, 31 UCLA L. REV. 671, 699–700 (1984).

patent.²⁴ As the National Archives and Records Administration (NARA) is now destroying a substantial number of its older judicial records, it is important to demonstrate ways in which these records can be used.²⁵ These records offer more than just the components of old judicial decisions. They contain contemporary documents and testimony often going beyond the narrow questions eventually addressed in published judicial decisions, and sometimes, as in *Allied Leisure*, a case will not even result in a published decision. Although the records I rely upon in this Article currently qualify for preservation, other historically interesting records may not.²⁶ Judges and court clerks can designate additional records for preservation, but the process for identifying the records worth preserving appears to vary from court to court.²⁷ The value of certain records may not be obvious, especially when they relate to topics like games, but by making a contribution to the literature on the video game industry's history, I hope this Article demonstrates that even case files about games have some historical value.

²⁴ Prior to the closing of its public viewing room due to declining use (a possible consequence of the popularity of PACER), I was able to examine these files at the Federal Records Center in Chicago, a part of NARA's storage system for inactive federal records. See 44 U.S.C. § 2907 (2012); Chicago Federal Records Center, <http://www.archives.gov/frc/chicago/> (last visited July 30, 2012).

²⁵ For the first time in decades, NARA is destroying records from federal cases. The quantity being destroyed is substantial: hundreds of thousands of records from federal cases filed between 1970 and 1995 and more recent records as time continues. These records are not digitally scanned before they are destroyed. NARA is preserving some records, including the records from cases that went to trial and the records from cases designated as historic, either because of the parties involved or because of the subject matter. See Admin. Off. of the U.S. Cts., *Making Room, Saving History*, THE THIRD BRANCH, May 2011, at 1, 1–2. As Professor Theodore Eisenberg notes, even records lacking historically important parties or issues still have value for showing trends over time, but many of these records are being lost. *Id.* See also Michael Tarm, *Plans to Destroy Records have Some Riled*, VIRGINIAN-PILOT, Aug. 26, 2011, at A14.

²⁶ Under the current policy, NARA should preserve the *Allied Leisure* records because the case is classified as a copyright suit, and the case proceeded far enough into the litigation process to qualify for preservation. The '507 patent litigation records should be preserved for two reasons. First, records from patent cases are currently preserved no matter how far the suit progressed. Second, records from cases that went to trial are currently preserved, and two of the consolidated cases in the file went to trial. See Admin. Off. of the U.S. Cts., 10 GUIDE TO JUDICIARY POLICY appendix 6B (Oct. 5, 2012) ("Records Disposition Schedule 2"), available at <http://www.uscourts.gov/CourtRecords/RecordsSchedule.aspx>.

²⁷ See Admin. Off. of the U.S. Cts., *Making Room, Saving History*, *supra* note 25, at 2; Maya Rhodan, *Millions of Federal Court Records are Being Destroyed to Save Money*, iWATCHNEWS (Jan. 27, 2012, 5:10 p.m.), <http://www.iwatchnews.org/2011/08/02/5456/millions-federal-court-records-are-being-des-troyed-save-money> (noting that "Judge Hugh Brenneman of the U.S. District Court for the Western District of Michigan sent letters to lawyers, judges and clerks in Michigan to get input on what may be considered historic and should be preserved").

II. BACKGROUND

A. ATARI, INC.

Atari, Inc. was formed in June 1972 by Nolan Bushnell and Ted Dabney.²⁸ Originally, their intent was to design and license games to other arcade game manufacturers rather than to manufacture games themselves.²⁹ There was an arcade industry before Atari, one largely based in Chicago,³⁰ but for the most part, it did not produce video games. Instead, it mostly produced pinball and other electromechanical games.³¹ The industry's two exceptions were in California: Syzygy Company and Nutting & Associates. Prior to forming Atari, Bushnell and Dabney had formed Syzygy to design an arcade game based on *Space War*, a computer game involving combat between two spaceships.³² *Space War* was designed in the early 1960s for play on a university computer at MIT.³³ Bushnell, an "avid" board game player,³⁴ became an avid *Space War* player while in college at the University of Utah.³⁵ Bushnell's idea for a *Space War* arcade game combined his gaming experience with his experience of working in an arcade (of the pre-video game type).³⁶ After making some progress on the design for the game, Bushnell and Dabney licensed it to Nutting & Associates, a small amusement machine manufacturer in California.³⁷ They then went to

²⁸ Atari's articles of incorporation have an execution date of June 9, 1972, and a filing date with the California Secretary of State of June 27, 1972. See Articles of Incorporation of Atari, Inc. (June 9, 1972), available at <http://mcurrent.name/atarihistory/Articles-of-Incorporation.pdf> (last visited Oct. 28, 2012). See also DONOVAN, *supra* note 2, at 23 (discussing the origin of Atari).

²⁹ Henry Lowood, *Oral History of Allan (Al) Alcorn* (Computer History Museum 2008), at 16–17; Al Alcorn, *Where Did Atari Come From?*, on DVD: CLASSIC GAMING EXPO 2K7 (CGE Services 2007), at approximately minute 17:35.

³⁰ See Nolan Bushnell, *The Atari Story*, on DVD: BEST OF CGE '03 (CGE Services 2009), at approximately minute 39:30.

³¹ See Mark J.P. Wolf, *Arcade Games of the 1970s*, in THE VIDEO GAME EXPLOSION 35, 35 (Mark J.P. Wolf ed., 2008) ("A number of companies, like Gottlieb, Bally, Williams, Midway, Sega, and Allied Leisure, made pinball games and other electromechanical games before joining the video game industry."). For examples of electromechanical games, see generally MICHAEL FORD, ANTIQUE ARCADE GAME ADS (2010); MICHAEL FORD, ANTIQUE ARCADE GAMES: MIKE MUNVES CATALOGS 1939–1962 (2007).

³² KENT, *supra* note 6, at 16–21.

³³ *Id.*

³⁴ Bushnell, *supra* note 30, at approximately minute 1:25, minute 7:00.

³⁵ KENT, *supra* note 6, at 30.

³⁶ See generally *id.* at 28–31.

³⁷ Kent puts the formation of Syzygy after Bushnell left Nutting, *id.* at 34, but Alcorn notes that *Computer Space* itself is labeled "syzygy engineered," Lowood, *supra* note 29, at 7. Other sources confirm that Syzygy predated Bushnell and Dabney's employment with Nutting. See, e.g.,

work for Nutting and completed the design.³⁸ Nutting called the game *Computer Space* and began shipping the game to customers in November 1971, making it the first mass-produced commercial arcade game.³⁹ Unfortunately, *Computer Space* proved excessively complicated for common arcade game venues, such as bars, and was not the commercial success that *Pong* would later become.⁴⁰

Several months after Nutting's release of *Computer Space*, Bushnell and Dabney left Nutting and formed Atari.⁴¹ Their plan was again to design and license games, not to manufacture them.⁴² One of Bushnell's earliest design agreements was with Bally Manufacturing Corporation, the parent company of Midway Manufacturing Company.⁴³ Bally was a leading pinball manufacturer going back to the 1930s.⁴⁴ Midway, the junior of the two game manufacturers, was founded in 1958 and made pinball and other electro-mechanical arcade machines.⁴⁵ It became a subsidiary of Bally in 1969.⁴⁶ *Computer Space* gave Bushnell a basis for forming a relationship with Bally and Midway, two established members of the arcade industry.

Despite *Computer Space*'s lack of commercial success, Bushnell's experience with the new form of coin-operated games helped him arrange a meeting in Chicago with John Britz, Bally's executive vice president.⁴⁷ Bushnell and Britz

Interview w Ted Dabney at Midwest Gaming Classic 2011, YouTube (Mar. 29, 2011), <http://www.youtube.com/watch?v=ijTWI4gEJ54>.

³⁸ To maintain the rights in the game, Bushnell said he worked on Nutting's projects during regular work hours and on *Computer Space* after hours. KENT, *supra* note 6, at 32.

³⁹ *Computer Space* was not the first coin-operated arcade video game. *Galaxy Game* appeared in the Tresidder Union at Stanford University in September 1971, but the makers of the game did not mass-produce it. Like *Computer Space*, *Galaxy Game* was also based on *Space War*. See DONOVAN, *supra* note 2, at 15–21 (discussing the origin of *Galaxy Game*).

⁴⁰ See *id.* at 20–21; KENT, *supra* note 6, at 33–34.

⁴¹ Bushnell said in an affidavit that his obligations at Nutting & Associates ended on June 5, 1972. Britz Deposition Exhibit 3: Affidavit of Nolan Bushnell, Deposition of John Anthony Britz, Magnavox Co. v. Bally Mfg. Corp., No. 74-1030 (N.D. Ill. Jan. 17, 1975). As noted above, Bushnell and Dabney filed Atari's articles of incorporation on June 27, 1972. KENT, *supra* note 6, at 38; Business Search, California Secretary of State, *available at* <http://kepler.sos.ca.gov/> (last visited June 30, 2012). The new corporation would have carried the original Syzygy name, but that name was in use by another company registered with the State of California and was therefore unavailable. See KENT, *supra* note 6, at 35. Atari was one of their alternative choices and the name was available, so it became the name of the new corporation. *Id.*

⁴² See Lowood, *supra* note 29, at 16.

⁴³ CHRISTIAN MARFELS, BALLY: THE WORLD'S GAME MAKER 48 (2001).

⁴⁴ *Id.* at 5–10, 32–34, 51. Bally was originally a division of the now forgotten Lion Manufacturing Company. See *id.* at 8–9.

⁴⁵ See *id.* at 48; Deposition of Henry Ross at 34, Magnavox Co. v. Bally Mfg. Corp., No. 74 C 1030 (N.D. Ill. Jan. 17, 1975) (deposition taken June 25, 1974) [hereinafter Ross Deposition].

⁴⁶ See Ross Deposition, *supra* note 45, at 35; MARFELS, *supra* note 43, at 48.

⁴⁷ Deposition of John Anthony Britz at 12–15, Magnavox Co. v. Bally Mfg. Corp., No. 74 C

met on June 26, 1972, and Bushnell agreed to design two game prototypes for Bally, one a video game and the other a four-player pinball game.⁴⁸ The agreement contained no details about the themes of the games,⁴⁹ but in a subsequent letter to Bally, Bushnell said that the video game would have a hockey theme and that it would be finished by November 15, 1972.⁵⁰ In return, Bally agreed to pay Bushnell \$4,000 a month for six months and a 3% royalty on the selling price of the games.⁵¹ Although the agreement was formally between Bally and Bushnell,⁵² it referenced Bushnell's "operation" and seems to have been treated, at least by Bushnell, as an agreement between Bally and Atari.⁵³

B. ATARI'S PONG

Around the time that Bushnell met with Bally, he instructed Al Alcorn, one of Atari's earliest employees,⁵⁴ to design a simple ping pong or tennis video

1030 (N.D. Ill. Jan. 17, 1975) (deposition taken June 25, 1974) [hereinafter Britz Deposition].

⁴⁸ See Exhibit 3: Royalty Agreement, Deposition of Henry Ross, Magnavox Co. v. Bally Mfg. Corp., No. 74 C 1030 (N.D. Ill. Jan. 17, 1975) [hereinafter Royalty Agreement]. Alcorn recalled a third project with Bally, which he described as "some kind of major arcade piece," but neither the agreement nor a follow-up letter mentions a third project. See Lowood, *supra* note 29, at 11. Bushnell did eventually submit a pinball game design to Bally called *Fireball*, but Bally never released it. See Britz Deposition, *supra* note 47, at 18. Bally did, however, release a different pinball game with that same name. *Id.*

⁴⁹ Royalty Agreement, *supra* note 48, at 1–3.

⁵⁰ Britz Deposition Exhibit 2: Letter from Nolan Bushnell to John A. Britz (July 10, 1972), Deposition of John Anthony Britz, Magnavox Co. v. Bally Mfg. Corp., No. 74 C 1030 (N.D. Ill. Jan. 17, 1975). Bushnell's letter was on Syzygy letterhead, probably for the same reason that Bushnell continued to use the Syzygy name and letterhead in other contexts: either because Bushnell thought the original Syzygy Company might still have some value (either for name recognition value or for tax purposes) or because the alternative was to let costly letterhead go to waste. See Alcorn, *supra* note 29, at approximately minute 20:25 (explaining the use of the Syzygy name on the original flyer for *Pong* and the use of Syzygy letterhead internally at Atari). At some later point, Bushnell may have promised Bally a driving game instead of the hockey game. See Bushnell, *supra* note 30, at 25:30. During his 2003 comments about his contract with Bally, Bushnell made no mention of a hockey game, but Britz made no mention of a driving game in his June 1974 deposition, instead saying that Bushnell replaced the hockey game with a space game. See *infra* note 85 and accompanying text.

⁵¹ See Royalty Agreement, *supra* note 48, at 1–2.

⁵² See Britz Deposition, *supra* note 47, at 8–10, 21 (discussing whether the agreement was between Bally and Bushnell or Bally and Atari).

⁵³ See Royalty Agreement, *supra* note 48, at 1 (referring to Bushnell's obligation to "staff his operation adequately").

⁵⁴ KENT, *supra* note 6, at 39.

game.⁵⁵ The project was just a training exercise to familiarize Alcorn with the video game technology; however, because Bushnell wanted Alcorn to take the project seriously, he told Alcorn that Atari had a contract with another company to design the game.⁵⁶ Bushnell's inspiration for the assignment came from a game for the Magnavox Odyssey home video game console.⁵⁷ At the time, Magnavox was demonstrating the Odyssey at various promotional events around the country.⁵⁸ One of the Odyssey games was *Table Tennis*, a ball and paddle game designed by William Rusch.⁵⁹ Bushnell did not mention the Odyssey game to Alcorn, but Bushnell had played *Table Tennis* at a May 1972 Magnavox promotional event in Burlingame, California.⁶⁰ Magnavox's game did not impress Bushnell, making it seem especially suitable for Alcorn's training exercise.⁶¹ While a trial court judge in the litigation over the '507 patent concluded that there was a lack of evidence to prove it,⁶² Bushnell may have conceived of a ping pong or tennis game while he was still a student at the University of Utah.⁶³ In addition to playing *Space War* while in college, Bushnell

⁵⁵ Lowood, *supra* note 29, at 11; Alcorn, *supra* note 29, at approximately minute 10:45; Al Alcorn, *The Story of Pong*, AUSTRALIAN CENTRE FOR THE MOVING IMAGE (Mar. 6, 2008), http://www.acmi.net.au/talks_gameon_storyofpong.htm.

⁵⁶ See Lowood, *supra* note 29, at 10–11; Alcorn, *supra* note 29, at approximately minute 11:15; Bushnell, *supra* note 30, at approximately minute 21:30; KENT, *supra* note 6, at 40–41.

⁵⁷ See Bushnell, *supra* note 30, at approximately minute 21:45 (discussing the controversy about how he got the idea for *Pong*).

⁵⁸ BAER, VIDEOGAMES, IN THE BEGINNING, *supra* note 2, at 75–76, 80.

⁵⁹ Although Baer designed the Odyssey, Rusch had the idea for the tennis or ping pong game. See generally BAER, VIDEOGAMES: IN THE BEGINNING, *supra* note 2. See U.S. Patent No. Re. 28,507 (filed Apr. 25, 1974) ("Television Gaming Apparatus"); BAER, VIDEOGAMES: IN THE BEGINNING, *supra* note 2, at 45–47 ("Bill Rusch came up with the idea of using that spot as a 'ball' so that we could play some sort of ball game with it [...] such as Ping-Pong . . ."); Deposition of Ralph H. Baer at 11, Midway Mfg. Co. v. Magnavox Co., No. 74 C 1657 (S.D.N.Y. Oct. 8, 1976) (deposition taken Feb. 18, 1976) ("Q. Do you credit Mr. Rusch with having conceived the ping pong type game where one image appears to bounce off another? A. To the best of my recollection, that's how it was.").

⁶⁰ See BAER, VIDEOGAMES: IN THE BEGINNING, *supra* note 2, at 81 (showing an image of the sign-in sheet with Bushnell's signature); Bushnell, *supra* note 30, at approximately minute 21:45; Trial Transcript at 1501-06, Magnavox Co. v. Chi. Dynamic Indus., Nos. 74 C 1030, 74 C 2510 (N.D. Ill. Jan. 5, 1977) (quoting a section from the deposition of Nolan Bushnell about his visit to the Magnavox event).

⁶¹ Lowood, *supra* note 29, at 10–11; Bushnell, *supra* note 30, at approximately minute 22:30.

⁶² See Magnavox Co. v. Chi. Dynamic Indus., Nos. 74 C 1030, 74 C 2510, 1977 U.S. Dist. LEXIS 17996, at *5–6 (N.D. Ill. Jan 10, 1977) ("Yet there is no real evidence which I find persuasive that Mr. Bushnell had conceived of anything like the *Pong* game prior to the time that he saw the Odyssey game." (*italics added*)).

⁶³ Bushnell said, "I've said that I saw the [Odyssey] game and it reminded me, but [Ralph Baer] knows full well that I had a similar game designed in my lab book." Benj Edwards, *VCE&G Interview*:

did maintain notes on ideas for games and even wrote some programs himself.⁶⁴ Tennis plausibly could have been among these games. Either way, Bushnell saw Magnavox's *Table Tennis* game at the event, and it at least reminded Bushnell of an earlier idea for a game.

With some assistance from Bushnell and Dabney, Alcorn completed the *Pong* design over the summer of 1972. Like *Computer Space*, but unlike later video games, the original arcade version of *Pong* was exclusively hardware-driven. There was no microprocessor; there was no software.⁶⁵ As it turned out, Alcorn's game design appeared to have potential. In contrast to Magnavox's *Table Tennis*, which lacked sound and did not keep track of the players' scores,⁶⁶ Bushnell thought *Pong* was a fun game.⁶⁷ Bushnell and Dabney decided to market *Pong*'s design rather than discard it.⁶⁸ As a test run in September 1972, they placed a *Pong* prototype in Andy Capp's Tavern in Sunnyvale, California,⁶⁹ a bar that was already home to a *Computer Space* game.⁷⁰ However, unlike *Computer Space*, *Pong* was simple. The complete instructions were:

- DEPOSIT QUARTER
- BALL WILL SERVE AUTOMATICALLY
- AVOID MISING BALL FOR HIGH SCORE⁷¹

Nolan Bushnell, VINTAGE COMPUTING AND GAMING (Dec. 12, 2007, 2:07 PM), <http://www.vintagecomputing.com/index.php/archives/404>. Bushnell then added, "In the patent lawsuit, I presented my lab book in evidence." *Id.* I examined the relevant case files and found no indication that the lab book was submitted. Bushnell's deposition might have clarified what happened to the lab book, but his deposition was not in the publicly available file. See Civil Docket at 25, *Magnavox Co. v. Bally Mfg. Co.*, No. 74 C 1030 (N.D. Ill. June 1, 1976) [hereinafter *Civil Docket-Magnavox*] (noting the filing of Bushnell's deposition in the vault).

⁶⁴ See KENT, *supra* note 6, at 30 (discussing Bushnell's college years).

⁶⁵ See Henry Lowood, *Videogames in Computer Space: The Complex History of Pong*, IEEE ANNALS OF THE HISTORY OF COMPUTING, July–Sept. 2009, at 15 ("Not a single line of software code was involved in the construction of *Pong*"); Alcorn, *supra* note 55 ("But what *Pong* is electronically is a logical circuit with a crystal oscillator and dividers and counters, and out comes the ball signal. The sounds come sneaking out of there. Basically, it's just a bunch of logic. It's a machine that just plays *Pong*. A lot of people, a lot of young engineers have trouble imagining how you could build something without a computer chip. And so, that's how." (italics added)).

⁶⁶ Leonard Herman, *Ball and Paddle Consoles*, in *BEFORE THE CRASH: EARLY VIDEO GAME HISTORY* 53, 55 (Mark J.P. Wolf ed. 2012).

⁶⁷ See Bushnell, *supra* note 30, at approximately minute 23:00; KENT, *supra* note 6, at 43 (quoting Bushnell: "And, dammit, it was fun.").

⁶⁸ KENT, *supra* note 6, at 42.

⁶⁹ See, e.g., DONOVAN, *supra* note 2, at 23; BURNHAM, *supra* note 17, at 87.

⁷⁰ KENT, *supra* note 6, at 43.

⁷¹ *Pong* (Atari 1972).

According to the often-told story, *Pong* was such a success that after being told that the machine had broken down, Alcorn discovered it was not broken but was jammed with quarters.⁷²

Sometime around the start of *Pong*'s test-run at Andy Capp's Tavern,⁷³ Bushnell traveled to Chicago to demonstrate *Pong* to Bally and Midway as a possible substitute for the hockey video game he had originally planned to develop for Bally.⁷⁴ Bushnell first demonstrated *Pong* for Bally's John Britz.⁷⁵ After doing so, Bushnell and Britz both went to Midway's facility, where Bushnell demonstrated the game for Midway's president, Marcine Wolverton.⁷⁶ Bushnell "sold them pretty hard"⁷⁷ and wanted *Pong* to fulfill his contract with Bally,⁷⁸ but Britz said he "did not see the merits of so-called *Pong*."⁷⁹ Britz added, "[E]verybody concerned thought it was a rather interesting game, but nobody actually got all excited over it."⁸⁰ At the time, Britz and Wolverton both passed on the game, which appears to have been a rather serious mistake.⁸¹ Part of the industry's lore is that Bally and Midway actually were interested in *Pong* as part of the contract with Bushnell, but once Bushnell found out about *Pong*'s success at Andy Capp's Tavern, he tricked Bally and Midway into passing on the game.⁸² Britz's deposition casts serious doubt on this story,⁸³ and contrary to one source, Bally did not cancel the contract with

⁷² See, e.g., DONOVAN, *supra* note 2, at 24; BURNHAM, *supra* note 17, at 87; Bushnell, *supra* note 30, at approximately minute 24:30 ("Yes, the story is true."). See also Tom Goulter, *The Top 7... Videogame Legends We Never Want to Hear Again*, GAMESRADAR (June 15, 2009) ("6. Bushnell's Bucket"), <http://www.gamesradar.com/the-top-7-videogame-legends-we-never-want-to-hear-again/>.

⁷³ Britz said that he probably met with Bushnell around the time of the 1972 Music Operators of America (MOA) exposition. Britz Deposition, *supra* note 47, at 20–21. That show took place in Chicago from September 14–16, 1972. See *All New Expo '72*, BILLBOARD, Sept. 9, 1972, at 35 (advertisement for the 1972 Music and Amusement Machines Exposition).

⁷⁴ See Britz Deposition, *supra* note 47, at 20–21, 25–26.

⁷⁵ *Id.* at 21.

⁷⁶ *Id.* at 24. Marcine "Iggy" Wolverton was both the president and co-founder of Midway. See Kenan Heise, *Marcine 'Iggy' Wolverton*, CHI. TRIB., Apr. 20, 1994, at 11 (obituary).

⁷⁷ KENT, *supra* note 6, at 43 (quoting Bushnell).

⁷⁸ Britz Deposition, *supra* note 47, at 25–26.

⁷⁹ *Id.* at 25 (italics added).

⁸⁰ *Id.* at 26.

⁸¹ *Id.* at 25–27.

⁸² Alcorn said Bushnell engaged in a "masterpiece of subterfuge" to convince Bally and Midway not to take *Pong*. Lowood, *supra* note 29, at 17. According to *Retro Gamer*, "In a move that would make Obi-Wan Kenobi proud," Bushnell "convinced Bally that this wasn't the droid it was looking for." *The Story of Pong*, *supra* note 2, at 28.

⁸³ It is possible that after the initial demonstration, Bally or Midway later wanted Bushnell to deliver *Pong* as part of the original contract. However, Britz was explicitly asked about further contacts with Bushnell, and he said nothing about Bally or Midway later trying to claim *Pong* as

Bushnell after rejecting *Pong*.⁸⁴ Instead, Bushnell eventually fulfilled his video game obligation in the contract with the design for another game, one Midway sold with the name *Asteroid* (not to be confused with Atari's 1979 blockbuster game *Asteroids*).⁸⁵ In the meantime, Atari was left to manufacture *Pong* itself.⁸⁶ Starting with an initial production run of just eleven units,⁸⁷ Atari released *Pong* in November 1972.⁸⁸ Atari went on to sell thousands of *Pong* units, with most estimates ranging from 3,000 to 8,000 units.⁸⁹ Atari's competitors, however, sold even more.⁹⁰

part of the original contract. See Britz Deposition, *supra* note 47, at 25–29. Atari and Midway did enter into an agreement involving *Pong* months later, but it was not part of the original contract. See *infra* note 109 and accompanying text.

⁸⁴ Apparently relying on the recollection of Ted Dabney, *Retro Gamer* reports that Bally originally owned *Pong* as a result of the June 1972 contract with Bushnell, but that Bally later released these rights to Atari in a letter. See *The Story of Pong*, *supra* note 2, at 22, 26, 28. Britz's and Ross's depositions do not support these claims. The *Retro Gamer* article also reports that Bally's letter cancelled Atari's outstanding obligations under the contract. *Id.* As documented in this section, Britz and Ross both said otherwise.

⁸⁵ See Britz Deposition, *supra* note 47, at 28–29. Even though Bushnell's contract was with Bally, it was Midway rather than Bally that manufactured *Asteroid*. See *id.* Atari also released its own version of *Asteroid* called *Space Race*, which arguably put Bushnell in breach of his contract with Bally. BURNHAM, *supra* note 17, at 96; Ross Deposition, *supra* note 45, at 26. As a resolution, the parties orally agreed that Midway would not pay any royalties to Bushnell or Atari on sales of *Asteroid*. *Id.* Regarding the release and success of Atari's 1979 *Asteroids* game, see Tom Vanderbilt, *Asteroids*, in *SUPERCARDE*, *supra* note 17, at 197, 197 (“[W]ith some 70,000 units released it eclipsed *Space Invaders* and briefly held sway as the most popular coin-op ever . . .”).

⁸⁶ Donovan reports that Nutting also turned down the opportunity to license *Pong*. See DONOVAN, *supra* note 2, at 24.

⁸⁷ See *id.* (quoting Bushnell); Bushnell, *supra* note 30, at approximately minute 27:30.

⁸⁸ See Dennis Lynch, *The Post-pong Era*, CHI. TRIB., Nov. 27, 1992, available at http://articles.chicagotribune.com/1992-11-27/entertainment/9204180492_1_ibm-computer-game (acknowledging the twentieth anniversary of *Pong*); SCOTT COHEN, ZAP: THE RISE AND FALL OF ATARI 33 (1984).

⁸⁹ According to Al Alcorn, Atari sold approximately 3,000 *Pong* units. Alcorn, *supra* note 55. *Business Week* put the number at 6,000 by November 1973. *A Red-Hot Market for Video Games*, *supra* note 6, at 212. Many other sources put the number in the neighborhood of 8,000. DONOVAN, *supra* note 2, at 25; *In the Chair . . . with Nolan Bushnell*, RETRO GAMER no. 21, 2006, at 58, 60; BURNHAM, *supra* note 17, at 90; COHEN, *supra* note 88, at 34. Bushnell once said the number of coin operated *Pong* machines reached between 150,000 and 180,000 at its peak, but this number does not sound plausible. See Liane Hansen, *The Ping Heard 'Round the World*, NPR (Dec. 2, 2007), <http://www.npr.org/templates/story/story.php?storyId=16816188> (interview with Nolan Bushnell). Bushnell may have been referring to the number of ping pong (or tennis) type games of all types by all manufacturers or even to the number of coin operated video games in general. Although Bushnell's numbers still seem high, at least for ping pong games, some sources do report that there were about 100,000 ping pong games by 1974 (and that Atari manufactured about 10,000 of them). See Scott Stilphen, *Nolan Bushnell: A Man and His Empire*, 2600 CONNECTION, March/April 1993, at 6–7; Bernstein, *supra* note 2, at 42.

⁹⁰ Despite the question of exactly how many *Pong* games Atari sold and how many games

C. THE JACKALS' "PONGS"

Atari's competitors, including Allied Leisure, copied *Pong*'s design, and within about three months of *Pong*'s release, they started releasing their own versions of the game. Allied Leisure called its version *Paddle Battle*.⁹¹ During the '507 patent litigation, David Braun, Allied Leisure's chairman and chief executive officer, said that the circuit board for *Paddle Battle* was developed by Universal Research Laboratories (URL) in Chicago.⁹² He was not asked how URL developed the board, but in a 2000 interview, a former game-designer at Allied Leisure named Jack Pearson offered some relevant details.⁹³ Pearson said Allied Leisure bought *Pong* from a California distributor and then sent at least the printed circuit board to URL.⁹⁴ He added that URL "more-or-less copied the circuitry" and then produced the boards for Allied Leisure.⁹⁵ With circuitry based on Atari's *Pong*, Allied Leisure released *Paddle Battle* in March or possibly April 1973⁹⁶ and went on to sell about 22,000 units,⁹⁷ far more than Atari's sales of *Pong*. Other companies took a similar approach to designing their own versions of *Pong*. Chicago Dynamic Industries, for example, began producing what it called *TV Ping Pong* in April 1973.⁹⁸ During his deposition in the '507

Atari's competitors sold, there is widespread agreement that Atari's competitors sold more. *See* DONOVAN, *supra* note 2, at 25–26 (stating that some of the individual clones sold as well as the original); Alcorn, *supra* note 55 (estimating that Atari made 3,000 of the 12,000 "Pong" machines); Stilphen, *supra* note 89, at 6–7 (estimating that Atari sold 10,000 of the 100,000 "Pong" machines); *A Red-Hot Market for Video Games*, *supra* note 6, at 212 (estimating in 1973 that Atari had sold 6,000 machines but that Midway alone had already sold 9,000 machines).

⁹¹ *Paddle Battle* (Allied Leisure Indus. 1973).

⁹² *See* Braun Deposition, *supra* note 1, at 26–30.

⁹³ Keith Smith, *Allied Leisure Industries: Designer Jack Pearson Speaks!*, GAMEROOM, Dec. 2000, at 6.

⁹⁴ *Id.* at 8. Unlike Bally and Midway, Allied Leisure had not had any kind of business relationship with Atari as of June 14, 1974. *See* Braun Deposition, *supra* note 1, at 46.

⁹⁵ *See* Smith, *supra* note 93, at 8. In support of Pearson's recollection, in 1973 Midway's chief engineer examined *Paddle Battle*'s printed circuit board and concluded it was "substantially identical" to Atari's printed circuit board, which was the same as Midway's printed circuit board. *See* Affidavit of George T. Blahuta at 2, *Allied Leisure Indus. v. Midway Mfg. Co.*, No. 73 C 2682 (N.D. Ill. Oct. 19, 1973) [hereinafter Blahuta Affidavit].

⁹⁶ *See* Smith, *supra* note 93, at 8 (reporting that Allied Leisure released *Paddle Battle* in March 1973); Braun Deposition, *supra* note 1, at 44 (stating that Allied Leisure released *Paddle Battle* in March or April of 1973). It seems more likely that Allied Leisure released *Paddle Battle* in March rather than April. Jack Pearson recalled that Allied Leisure's *Paddle Battle* came out before Midway's *Winner*. Smith, *supra* note 93, at 8. And according to Henry Ross, Midway began manufacturing *Winner* on approximately April 1, 1973. Ross Deposition, *supra* note 45, at 22–23, 28.

⁹⁷ Smith, *supra* note 93, at 8.

⁹⁸ *See* Deposition of Jerry C. Koci at 59, *Magnavox Co. v. Bally Mfg. Corp.*, No. 74 C 1030, 74 C 2510 (N.D. Ill. Dec. 17, 1975) (deposition taken May 28, 1975) [hereinafter Koci Deposition].

patent litigation, the vice president of engineering for Chicago Dynamic Industries explained how the company designed *TV Ping Pong*:

- Q. Did someone at Chicago Dynamic develop the game *TV Ping Pong*?
 A. No, sir.
 Q. Was that *borrowed*, as you use the term?
 A. That's the right expression.
 Q. And from whom was that borrowed?
 A. Atari.
 Q. Was it borrowed subject to any arrangement or agreement of any kind?
 A. No, sir.⁹⁹

Copying was the norm in the earliest period of the video game industry and often occurred without objection, legal or otherwise, from the original sources.¹⁰⁰

Bushnell was not fond of the competitors who copied *Pong*'s design—he referred to them as “jackals”—but his view was that staying ahead of the copiers meant producing new and innovative games while the copiers lagged a step behind.¹⁰¹ At least initially, Bushnell even thought it could work to Atari's advantage if his competitors devoted themselves to copying Atari's games. Bushnell figured that so long as they focused on copying Atari's games, the competitors would devote fewer resources to developing their own original games.¹⁰² Atari could therefore stay three to six months ahead of them in terms of product design.¹⁰³ Bushnell's strategy was at least plausible. At the time, there was a fairly limited window of opportunity in which to sell a new game before the various arcade game locations acquired the desired number of units.¹⁰⁴

⁹⁹ *Id.* at 61–62 (emphasis added).

¹⁰⁰ During his deposition, Jerry Koci, the vice president of engineering, was asked, “Has any competitor or other person or company charged Chicago Dynamic with improperly copying or borrowing from any of their games.” *Id.* at 55. After clarifying that this question was confined to video games, Koci responded, “No, sir.” *Id.*

¹⁰¹ BURNHAM, *supra* note 17, at 90; KENT, *supra* note 6, at 61.

¹⁰² See Bushnell, *supra* note 30, at approximately minute 37:30. Bushnell said Atari even used some obscure components (“bizarre chips”) to slow down copiers and increase Atari's lead time. *Id.*

¹⁰³ *Id.*

¹⁰⁴ See *A Red-Hot Market for Video Games*, *supra* note 6, at 212 (noting that “sales of the video games are bound to slow when every location has been supplied with one and there is only the replacement market to live on”).

Midway is often listed among the “jackals” that produced knock-offs of *Pong*,¹⁰⁵ sometimes even by Bushnell¹⁰⁶ and Alcorn,¹⁰⁷ but Midway’s position was quite different. With *Pong* a demonstrated success, Midway reconsidered its initial lack of interest in the game, but Midway did not produce an unlicensed clone. Bally and Midway’s rejection of *Pong* in the fall of 1972 did not end the relationship with Bushnell. Had Midway released an unlicensed version of *Pong*, it could have strained the still-ongoing relationship with Bushnell and Atari. Henry Ross, the secretary-treasurer of Midway,¹⁰⁸ instead worked out a licensing agreement with Bushnell in February 1973.¹⁰⁹ Bushnell’s interest in this agreement might have been that Atari lacked the manufacturing capacity to meet the current demand for *Pong*,¹¹⁰ but whatever Bushnell’s thinking, Atari agreed to provide Midway with the information and engineering support it needed to produce a version of *Pong* identical to Atari’s game—but with a different name.¹¹¹ Midway agreed to pay Atari a royalty of \$31.00 per unit.¹¹² Midway called its version of the game (its first video game) *Winner* and began producing it in April 1973.¹¹³

¹⁰⁵ See, e.g., KENT, *supra* note 6, at 61.

¹⁰⁶ See Bushnell, *supra* note 30, at approximately minute 35:30 (using Midway’s *Winner* as an example of a knock-off of *Pong*).

¹⁰⁷ See Lowood, *supra* note 29, at 18 (quoting Alcorn as saying Bally/Midway “knocked off and copied *Pong*” (italics added)); Alcorn, *supra* note 29, at approximately minute 21:45 (using Midway’s *Winner* as an example of one of the copies of *Pong*). A few minutes earlier in the 2007 presentation, Alcorn referred to Bally copying *Pong* like “everybody else,” but this was probably meant as a reference to Midway (and Midway’s game *Winner*), given the close relationship between Bally and Midway. *Id.* at approximately minute 18:20. Some sources do note the licensing arrangement between Atari and Midway. See, e.g., DONOVAN, *supra* note 2, at 23, 25; BURNHAM, *supra* note 17, at 97.

¹⁰⁸ See Ross Deposition, *supra* note 45 at 3, 34.

¹⁰⁹ Ross Deposition Exhibit 2: Agreement of Feb. 22, 1973, Deposition of Henry Ross, *supra* note 45. Ross is listed as president of Midway on this agreement by mistake. See Ross Deposition, *supra* note 45, at 10 (“Well, it is a mistake, obviously.”).

¹¹⁰ See DONOVAN, *supra* note 2, at 24–25 (discussing the early difficulties Atari had with meeting the demand for *Pong*).

¹¹¹ Agreement of Feb. 22, 1973, *supra* note 109, at 1–2. The cabinets of the two games also varied. See BURNHAM, *supra* note 17, at 86, 97.

¹¹² Agreement of Feb. 22, 1973, *supra* note 109, at 2. Donovan reports a royalty rate of 5 percent of Midway’s sales, but the contract says \$31.00 per unit sold. See DONOVAN, *supra* note 2, at 25. Initially, Midway also purchased printed circuit boards and other components from Atari. Ross Deposition, *supra* note 45, at 23, 54.

¹¹³ See Ross Deposition, *supra* note 45, at 23, 28.

D. FOUR-PLAYER "PONGS"

Pong and its various copies sold well for a few months, but the demand for two-player tennis games cooled after the debut of similar tennis games playable by four players. In July or August 1973, Allied Leisure released a tennis game playable by two or four players.¹¹⁴ Allied Leisure sold the same game under two different names, one with the name *Tennis Tourney* and the other with the name *Ric-o-chet*.¹¹⁵ Shortly thereafter, manufacturers stopped producing exclusively two-player games. Chicago Dynamic Industries ceased production of *TV Ping Pong* in August 1973.¹¹⁶ Midway ceased production of *Winner* in approximately September 1973.¹¹⁷ One explanation for the declining sales of the older two-player games is that most locations had already acquired the games,¹¹⁸ but even new locations probably preferred games offering both two and four-player options. Midway's Henry Ross reportedly blamed Allied Leisure's *Tennis Tourney* and *Ric-o-chet* games for the declining sales of *Winner*.¹¹⁹ Presumably, either Wolverton or Ross thought Midway needed its own four-player tennis game because Midway followed Allied Leisure's lead and designed one using Allied Leisure's game.

Midway's engineers started their development of a four-player game with the printed circuit board for Midway's two-player *Winner* game,¹²⁰ but they needed to prepare a drawing or artwork for a printed circuit board with four-player functionality.¹²¹ A printed circuit board starts as a base material, such as epoxy glass, covered with a copper foil.¹²² The excess copper on the board is removed

¹¹⁴ See Smith, *supra* note 93, at 8 (stating that *Tennis Tourney* was released in July 1973); Ross Deposition, *supra* note 45, at 45 (stating that *Tennis Tourney* was released at the end of August 1973).

¹¹⁵ See *Tennis Tourney* (Allied Leisure promotional flyer undated); *Ric-o-chet* (Allied Leisure promotional flyer undated); Braun Deposition, *supra* note 1, at 25 ("Ric-o-chet was the same as *Tennis Tourney*.").

¹¹⁶ See Koci Deposition, *supra* note 98, at 59–60 (stating that Chicago Dynamic produced *TV Ping Pong* from April 5, 1973 to August 12, 1973).

¹¹⁷ Ross Deposition, *supra* note 45, at 24. On its own, this page of the transcript is somewhat confusing because it lacks an explicit reference to *Winner*. Ross was asked, "When was the VP-1 last made?" *Id.* He answered, "Approximately September of '73." *Id.* The term VP-1 was Atari's model designation for *Pong*. *Id.* at 23. A few pages later, Ross said that Midway called its version of the VP-1 *Winner*. *Id.* at 28. Hence, the transcript confirms that Midway ended production of *Winner* in "[a]pproximately September of '73." *Id.* at 24.

¹¹⁸ See *A Red-Hot Market for Video Games*, *supra* note 6, at 212.

¹¹⁹ See Smith, *supra* note 93, at 10 (quoting Jack Pearson as saying, "[W]e announced the 4-player and Hank Ross told us that they couldn't give their game away.").

¹²⁰ See Ross Deposition, *supra* note 45, at 50–51 (discussing the conversion from *Winner* to *Winner IV*).

¹²¹ See Blahuta Affidavit, *supra* note 95, at 3 (mentioning the preparation of artwork).

¹²² MICHAEL FLATT, PRINTED CIRCUIT BOARD BASICS 6 (2d ed. 1992); LUND, *supra* note 12, at 10.

through a chemical etching process to leave behind only the lines of copper traces needed to connect the various components that will eventually be added to the board.¹²³ As the copper is conductive, a circuit can be created on the board in a uniform layout without the need for hand-wired components.¹²⁴ The artwork depicts the layout of the desired copper lines or traces on the board and is a critical part of the manufacturing process: “it serves as a master from which to reproduce the electronic circuit on the board.”¹²⁵

In preparing the artwork for a four-player version of *Winner*, Midway’s engineers used one of Allied Leisure’s four-player printed circuit boards.¹²⁶ Like Midway, Allied Leisure had produced a version of Atari’s *Pong*, the previously mentioned *Paddle Battle* game. It is therefore understandable that Midway’s engineers were interested in Allied Leisure’s four-player game because it could have been a modification of Allied Leisure’s two-player *Paddle Battle* game. Not surprisingly, after examining Allied Leisure’s four-player board, Midway’s chief electronics engineer “concluded that approximately 80%” of the layout of Allied Leisure’s four-player board matched the two-player boards used by Atari, Midway, and Allied Leisure.¹²⁷ The remaining 20% included the layout for new circuitry to achieve four-player functionality.¹²⁸ Allied Leisure’s board was therefore very informative about how to modify Midway’s *Winner*’s two-player board to achieve four-player functionality, so Midway copied at least that portion of the board that added four-player functionality. Although Midway did not duplicate it completely, Midway’s engineers did incorporate many, if not most, of the features of Allied Leisure’s board into Midway’s new artwork and then into the boards Midway produced with this artwork.¹²⁹

¹²³ JOEL GOLDBERG, HOW TO MAKE PRINTED CIRCUIT BOARDS 3, 28, 74–81 (1980); LUND, *supra* note 12, at 3, 22–24.

¹²⁴ See FLATT, *supra* note 122, at 6; GOLDBERG, *supra* note 123, at 1 (“Using printed-circuit boards gives a high rate of reliability in production. All circuits are uniform in layout, eliminating the wiring errors common to hand-wired electronic circuits.”).

¹²⁵ GOLDBERG, *supra* note 123, at 16; see also LUND, *supra* note 12, at 141 (discussing the importance of the artwork).

¹²⁶ See Blahuta Affidavit, *supra* note 95, at 3 (“Because of the similarities between the printed circuit board for the ATARI two player game and the board of the ALLIED four player game including components, functions, and locations of parts, the ALLIED board was examined during the design of the MIDWAY printed board, but original art work was prepared for the MIDWAY board and neither photographs nor tracings of the ALLIED board were made or used in the design of the MIDWAY board.”).

¹²⁷ *Id.*

¹²⁸ *Id.* at 2–3.

¹²⁹ See *id.* at 4 (“During the design of the MIDWAY four player printed circuit board, [Blahuta] examined the ALLIED four player printed circuit board with the purpose of obtaining the same functions in the MIDWAY four player game as were present in the ALLIED four player game.”).

Midway released *Winner IV*, a four-player version of *Winner*, in mid-October 1973.¹³⁰ By then, the competition for four-player games was substantial, with about eleven other manufacturers producing four-player versions,¹³¹ including Atari.¹³² But Allied Leisure took a special interest in Midway's game and the similarities between Midway's printed circuit board and Allied Leisure's board.¹³³ Supposedly, Allied Leisure's philosophy for dealing with copiers was at one time similar to Bushnell's philosophy: innovate to stay ahead of them. In his 2000 interview, Jack Pearson, the former designer at Allied Leisure, said:

At the time, the idea was that anybody could copy anybody at any time. Our philosophy was that if you wanted to make any money you had to go out there and get it first and go like the devil while you've got it because someone else is going to be coming with it later. So put it out and go as fast as you can so that by the time the next guy copies it and gets into the market you will have your profit out of it. And that was the philosophy we all lived on.¹³⁴

Even if Allied Leisure usually accepted "the idea that anybody could copy anybody at any time," there was at least one clear exception.

During this effort, he noted that some of the holes and lines of the ALLIED board appeared to have no function and he instructed the designer of the art work for the MIDWAY board not to include in the MIDWAY board corresponding holes and lines. In addition, functions not possible with the components of the ALLIED game were included in the MIDWAY game by the design of MIDWAY board circuitry which was not present in the ALLIED board."); see also Affidavit of William E. Olliges in Support of Motion for Temporary Restraining Order at 4, *Allied Leisure Indus. v. Midway Mfg. Co.*, No. 73 C 2682 (N.D. Ill. Oct. 19, 1973) [hereinafter Olliges Affidavit] (stating that "substantially all of the circuit elements on Defendant's infringing printed circuit board are identical to the circuit elements on Plaintiff's copyrighted printed circuit board.>").

¹³⁰ The release date of mid-October is based on a statement made on October 18, 1973 by Allied Leisure's attorney that Midway "began flagrantly pirating" Allied Leisure's printed circuit board about one week earlier. See Transcript of Proceedings on Oct. 19, 1973 at 2, *Allied Leisure Indus. v. Midway Mfg. Co.*, No. 73 C 2682 (N.D. Ill. Mar. 25, 1974) [hereinafter Transcript of Proceedings (Oct. 19, 1973)].

¹³¹ Affidavit of Henry E. Ross, at 3, *Allied Leisure Indus. v. Midway Mfg. Co.*, No. 73 C 2682 (N.D. Ill. Oct. 19, 1973) [hereinafter Ross Affidavit]. Chicago Dynamic Industries' two or four-player *TV Tennis*, for example, was in production from August to November 1973. Koci Deposition, *supra* note 98, at 56, 60.

¹³² See *The Story of Pong*, *supra* note 2, at 29 (reporting that Atari released *Pong Doubles* in September 1973).

¹³³ See Complaint, *Allied Leisure Indus.*, *supra* note 8.

¹³⁴ Smith, *supra* note 93, at 8.

III. THE LAWSUIT

On October 18, 1973, Allied Leisure filed a complaint against Midway in the United States District Court for the Northern District of Illinois.¹³⁵ Allied Leisure claimed Midway infringed its copyright in the mechanical drawing of a printed circuit board for its four player tennis games.¹³⁶ At least in the complaint, Allied Leisure did not claim that Midway actually copied from the drawing, and there is no evidence in the record that Midway had access to a copy of the drawing.¹³⁷ Allied Leisure instead claimed that Midway copied the “printed circuit drawing by obtaining an actual sample of [Allied Leisure’s] printed circuit and tracing the drawing thereon.”¹³⁸ The day after filing its complaint, Allied Leisure sought a temporary restraining order to prevent Midway from manufacturing, advertising, or selling *Winner IV*,¹³⁹ Midway’s only game in production at the time.¹⁴⁰

In several ways, the case was a warm-up for future litigation in the industry. The Northern District of Illinois became a common venue for the industry’s

¹³⁵ Complaint, *Allied Leisure Indus.*, *supra* note 8, at 1.

¹³⁶ *Id.* at 3 (referring to the drawing as “the subject matter of the copyright in suit”). In some places, however, Allied Leisure said the board itself was copyrighted. See Motion for Temporary Restraining Order at 2, *Allied Leisure Indus. v. Midway Mfg. Co.*, No. 73 C 2683 (N.D. Ill. Oct. 19, 1973) (“Defendant’s printed circuit board is substantially identical to Plaintiff’s copyrighted printed circuit board.”).

¹³⁷ See, e.g., Blahuta Affidavit, *supra* note 95, at 3–4 (“Neither [Blahuta] nor, to the best of his knowledge, anyone else under his supervision involved in the design of the MIDWAY four player board has ever seen any drawings, photographs, tracings or wiring diagrams of the ALLIED four player printed circuit board.”).

¹³⁸ *Id.* at 5. Some statements were made during the case about Midway copying from Allied Leisure’s *drawing*, but these examples are confusing and seem to be the result of some imprecise language. The affidavit of William Olliges said,

I recently learned that Defendant was marketing a four player ping pong or tennis game for playing on a cathode ray tube, and I obtained a specimen of the printed circuit *board* which is used in Defendant’s said game. I have personally compared Defendant’s printed circuit *drawing* with Plaintiff’s copyrighted printed circuit drawing and note that they are substantially identical.

Olliges Affidavit, *supra* note 129, at 3–4 (emphasis added). Olliges went on to say that Midway’s reproduction of several false lines in Midway’s drawing—or perhaps he meant Midway’s board—was conclusive evidence that Midway copied Allied Leisure’s drawing, but the record indicates that these false lines were included on Allied Leisure’s board too. *Id.* at 4; Blahuta Affidavit, *supra* note 95, at 4. Therefore, the presence of some false lines in either Midway’s drawing or Midway’s board does not, by itself, reveal whether Midway copied from Allied Leisure’s drawing or from Allied Leisure’s board.

¹³⁹ See Motion for Temporary Restraining Order, *Allied Leisure Indus. v. Midway Mfg. Co.*, No. 73 C 2682 (N.D. Ill. Oct. 19, 1973).

¹⁴⁰ Transcript of Proceedings (Oct. 19, 1973), *supra* note 130, at 11.

early litigation,¹⁴¹ including much of the '507 patent litigation.¹⁴² The attorneys for both Allied Leisure and Midway would go on to become prominent lawyers for the video game industry. Allied Leisure was represented by George Gerstman, who later represented Stern Electronics in *Stern Electronics, Inc. v. Kaufman*.¹⁴³ *Stern* was a landmark case for the video game industry in which the United States Court of Appeals for the Second Circuit held that the audio-visual elements of a video game can satisfy the fixation requirement for copyright protection, even though players of the game inevitably manipulate the images in different ways each time they play.¹⁴⁴ Midway was represented by Donald Welsh and A. Sidney Katz.¹⁴⁵ Among their later cases, they represented Midway in *Midway Manufacturing Co. v. Artic International, Inc.*,¹⁴⁶ in which the Seventh Circuit endorsed the conclusion in *Stern*, thereby solidifying an important rule for the industry.¹⁴⁷ Gerstman, Welsh, and Katz were also involved in the multi-decade '507 patent litigation.¹⁴⁸

The *Allied Leisure* case was assigned to Judge Bernard Decker,¹⁴⁹ but Judge William Bauer, who would later be promoted to the United States Court of

¹⁴¹ See, e.g., *Midway Mfg. Co. v. Artic Int'l, Inc.*, 547 F. Supp. 999 (N.D. Ill. 1982), *aff'd*, 704 F.2d 1009 (7th Cir. 1983); *Atari, Inc. v. N. Am. Philips Consumer Elecs. Corp.*, No. 81-6434, 1981 U.S. Dist. LEXIS 16645 (N.D. Ill. Dec. 4, 1981), *rev'd*, 672 F.2d 607 (7th Cir. 1982).

¹⁴² See, e.g., *Magnavox Co. v. Chi. Dynamic Indus.*, Nos. 74 C 1030, 74 C 2510, 1977 U.S. Dist. LEXIS 17996 (N.D. Ill. Jan. 10, 1977); *Magnavox Co. v. Mattel, Inc.*, No. 80-4124, 1982 U.S. Dist. LEXIS 13773 (N.D. Ill. July 29, 1982).

¹⁴³ *Stern Elecs., Inc. v. Kaufman*, 669 F.2d 852 (2d Cir. 1982).

¹⁴⁴ *Id.* at 855-56.

¹⁴⁵ Transcript of Proceedings (Oct. 19, 1973), *supra* note 130, at 1 (noting Welsh's appearance); Answer to Complaint, *Allied Leisure Indus. v. Midway Mfg. Co.*, No. 73 C 2682 (N.D. Ill. Nov. 11, 1973) (listing Welsh and Katz as attorneys for the defendants).

¹⁴⁶ *Midway Mfg. Co. v. Artic Int'l, Inc.*, 547 F. Supp. 999 (N.D. Ill. 1982), *aff'd*, 704 F.2d 1009 (7th Cir. 1983). See Robert Loerzel, *The Katzes: Father and Daughter Excel in Intellectual Property Law*, LEADING LAWYERS MAGAZINE, July 2010, at 140 (discussing Katz's experience in video game litigation).

¹⁴⁷ See *Midway Mfg. Co. v. Artic Int'l, Inc.*, 704 F.2d 1009, 1012 (7th Cir. 1983).

¹⁴⁸ Gerstman represented at least Allied Leisure, Universal Research Laboratories, and Data East USA in the '507 litigation. Welsh and Katz represented at least Bally, Midway, and Empire Distributing. Katz also represented Konami of America, Inc. See *N. Am. Philips Corp. v. Taito Am. Corp.*, No. 93-3261, 1997 U.S. Dist. LEXIS 13264, at *2 (N.D. Ill. Aug. 29, 1997) (listing Gerstman for Data East USA, Inc. and Katz for Konami of America, Inc.); *In re Universal Research Labs., Inc.*, No. 77-4082, 1978 U.S. Dist. LEXIS 7216, at *1 (N.D. Ill. Dec. 15, 1978) (listing Gerstman for Universal Research Laboratories); Deposition of Thomas A. Briody at 2, *Magnavox Co. v. Bally Mfg. Corp.*, Nos. 74 C 1030, 74 C 2510 (N.D. Ill. Jan. 13, 1976) (listing Welsh and Katz for Bally, Empire, and Midway); Stipulation, at 1, *Magnavox Co. v. Bally Mfg. Corp.*, No. 74-1030 (N.D. Ill. Aug. 1, 1974) (dismissing the action against Allied Leisure Industries, Inc.) (signed by Gerstman as attorney for Allied Leisure).

¹⁴⁹ See Complaint, *Allied Leisure Indus.*, *supra* note 8, at 1; Civil Docket at 1, *Allied Leisure Indus.*

Appeals for the Seventh Circuit,¹⁵⁰ heard the October 19th motion for a temporary restraining order, his first exposure to the video game medium.¹⁵¹ For the court to grant a temporary restraining order against Midway, Judge Bauer said Allied Leisure needed to show a probability of success at trial and a threat of irreparable injury or harm.¹⁵² The Second Circuit, at the time the busiest circuit in the area of copyright law,¹⁵³ had long presumed irreparable harm in cases where a plaintiff made a showing of copyright infringement,¹⁵⁴ but it would be another decade before the Seventh Circuit took the same position.¹⁵⁵ (The Second Circuit has since departed from that longstanding rule in light of recent Supreme Court precedent.)¹⁵⁶ As Midway was capable of satisfying any future monetary judgment that might result from the case, Judge Bauer said Allied Leisure was not facing irreparable harm; therefore, he denied the request for a temporary restraining order without considering whether Allied Leisure was likely to succeed on the merits.¹⁵⁷ When the case went before Judge Decker the following week, he similarly denied Allied Leisure's

v. Midway Mfg. Co., No. 73 C 2682 (N.D. Ill. Oct. 18, 1973) [hereinafter Civil Docket-Allied Leisure].

¹⁵⁰ See RICHARD CAHAN, *A COURT THAT SHAPED AMERICA* 193 (2002).

¹⁵¹ Gertsman said, "I do not know if you have ever seen those types of games." Bauer responded, "I have been spared that, but go ahead." See Transcript of Proceedings (Oct. 19, 1973), *supra* note 130, at 5.

¹⁵² See *id.* at 17.

¹⁵³ See William K. Ford, *Judging Expertise in Copyright Law*, 14 J. INTELL. PROP. L. 1, 41 (2006) ("[T]he Second Circuit consistently published at least 31.3% of the copyright opinions from the 1890s through the 1970s, more than any other circuit by wide margins.").

¹⁵⁴ See *Robert Stigwood Grp., Ltd. v. Sperber*, 457 F.2d 50, 55 (2d Cir. 1972) ("[O]nce a prima facie case of infringement has been made out, a preliminary injunction should issue, even in the absence of a detailed showing of irreparable injury where dramatico-musical works are concerned."); *Am. Metro. Enters., Inc. v. Warner Bros. Records, Inc.*, 389 F.2d 903, 905 (2d Cir. 1968) ("A copyright holder in the ordinary case may be presumed to suffer irreparable harm when his right to the exclusive use of the copyrighted material is invaded."); *Am. Code Co. v. Bensinger*, 282 F. 829, 835 (2d Cir. 1922) ("Where the plaintiff has made a prima facie case in regard to the existence of the copyright and its infringement, a temporary injunction will, as a general rule, be issued.").

¹⁵⁵ Relying on the Second Circuit's decision in *Wainwright Sec., Inc. v. Wall Street Transcript Corp.*, 558 F.2d 91 (2d Cir. 1977), the Seventh Circuit said, "Irreparable injury may normally be presumed from a showing of copyright infringement." *Atari, Inc. v. N. Am. Philips Consumer Elecs. Corp.*, 672 F.2d 607, 620 (7th Cir. 1982).

¹⁵⁶ See *Salinger v. Coling*, 607 F.3d 68, 76–82 (2d Cir. 2010). District courts in the Seventh Circuit are still presuming irreparable harm in copyright cases. See *Flava Works, Inc. v. Gunter*, No. 10-6517, 2011 U.S. Dist. LEXIS 82955, at *19 (N.D. Ill. July 27, 2011), *vacated*, 689 F.3d 754 (2012); *Graphic Design Mktg. v. Xtreme Enters.*, 772 F. Supp. 2d 1029, 1034 (E.D. Wis. 2011); *Jano Justice Sys. v. Burton*, 636 F. Supp. 2d 763, 767 (C.D. Ill. 2009).

¹⁵⁷ Transcript of Proceedings (Oct. 19, 1973), *supra* note 130, at 17–18.

motion for a preliminary injunction.¹⁵⁸ The record does not include a written explanation for Judge Decker's decision or a transcript of a hearing.¹⁵⁹ Like Judge Bauer, Judge Decker may have agreed that Allied Leisure was not facing irreparable harm or that Allied Leisure was not likely to succeed on the merits—or both.¹⁶⁰ Indeed, Allied Leisure was not likely to succeed on the merits.

A. THE MERITS

Allied Leisure included two claims in its complaint against Midway: one for copyright infringement under federal law and the other for unfair competition, most likely under state law.¹⁶¹ The law strongly favored finding Midway not liable for copyright infringement. While neither claim was likely to succeed, the unfair competition claim, if based on a theory of misappropriation under state law, was the stronger of the two. The complaint did not explicitly reference misappropriation, but it would have been the likely theory for Allied Leisure to pursue if the case had not settled when it did.¹⁶² Also, there was enough

¹⁵⁸ See Civil Docket-Allied Leisure, *supra* note 149, at 2.

¹⁵⁹ I did not find a transcript of the hearing before Judge Decker in the file. The docket report does not record the addition of one to the file. See *id.* (recording the filing of the transcript of the hearing before Judge Bauer but not Judge Decker).

¹⁶⁰ Similar standards applied to granting the preliminary injunction and to granting the temporary restraining order. See Bernard J. Nussbaum, *Temporary Restraining Orders and Preliminary Injunctions—The Federal Practice*, 26 Sw. L.J. 265, 270–71 (1972).

¹⁶¹ The complaint did not explicitly state whether the unfair competition claim was grounded in state law or the federal Lanham Act, specifically, section 43(a) of the Lanham Act as codified in 15 U.S.C. § 1125(a). The jurisdictional statement refers to a federal question based only on the federal copyright act. The complaint invokes 28 U.S.C. § 1338 as the basis for the court's jurisdiction, and the court did have jurisdiction over a state unfair competition claim under 28 U.S.C. § 1338(b) (1970). Complaint, *Allied Leisure Indus.*, *supra* note 8, at 1. On the possibility of a federal unfair competition claim, see generally Bauer, *supra* note 23. In that 1984 article, Professor Joseph Bauer noted the reluctance of the courts to extend section 43(a) to situations involving copying. *Id.* at 699–700.

¹⁶² The complaint did reference unlawful price cutting, Complaint, *Allied Leisure Indus.*, *supra* note 8, at 5, 6, which can constitute unfair competition. See *CDW LLC v. NETech Corp.*, No. 10-530, 2011 U.S. Dist. LEXIS 97388, at *10–12 (S.D. Ind. Aug. 26, 2011) (discussing predatory price cutting under Indiana law); *Cleaning & Dyeing Plant Owners Ass'n v. Sterling Cleaners & Dyers, Inc.*, 2 N.E.2d 149, 154 (Ill. App. Ct. 1936) (“The courts are not concerned with the conduct of a business enterprise unless it appears that those engaged in the business seek by their methods to destroy a business adversary, and that such methods are used only for the evident purpose of driving from the business field a competitor by acts which indicate an intent to destroy and injure. . . . The fact that there are sales for less than those of a like business is not of itself unfair. In order to determine the purpose it is necessary to consider the facts and circumstances concerning such competition, and the court will consider such facts and the reason

uncertainty about the law of unfair competition and misappropriation to give Allied Leisure a better chance of success with that claim than the copyright claim, even though success was still unlikely.

1. *Copyright Infringement.* Critical to understanding the copyright claim in *Allied Leisure* is recognizing the difference between Allied Leisure's *drawing* of the printed circuit board and the printed circuit board itself. The distinction between the drawing and the actual board is related to a longstanding distinction in intellectual property law. It is the distinction recognized by the Supreme Court in *Baker v. Selden*,¹⁶³ between explaining or communicating some scientific or useful art and the underlying art itself.¹⁶⁴ *Baker* involved a book that explained a "peculiar" book-keeping system¹⁶⁵ and that contained the blank forms needed to use the system.¹⁶⁶ The question in the case was whether Baker infringed Selden's copyright in the book by using Selden's system in his own accounting books.¹⁶⁷ As a general matter, the Supreme Court explained:

A treatise on the composition and use of medicines, be they old or new; on the construction and use of ploughs, or watches, or churns; or on the mixture and application of colors for painting or dyeing; or on the mode of drawing lines to produce the effect of perspective,—would be the subject of copyright; but no one would contend that the copyright of the treatise would give the exclusive right to the art or manufacture described therein.¹⁶⁸

Applying this rule in *Baker*, the Court said the explanation of the book-keeping system is subject to copyright protection, but the underlying art "is the province of letters-patent, not of copyright."¹⁶⁹ The forms were "necessary incidents to the art" and therefore unprotected, absent a patent.¹⁷⁰

for cutting the price, and if the court finds that such price cutting is for the primary purpose of destroying the competition business, then such purpose is not fair competition."'). Based on the facts, the merits of this claim do not appear strong, but this topic is too far afield from the intellectual property issues presently of interest and will not be discussed further.

¹⁶³ 101 U.S. 99 (1880).

¹⁶⁴ *Id.* at 101–04.

¹⁶⁵ *Id.* at 99.

¹⁶⁶ *Id.* at 104–05.

¹⁶⁷ *Id.* at 100.

¹⁶⁸ *Id.* at 102.

¹⁶⁹ *Id.*

¹⁷⁰ *Id.* at 103, 107. On *Baker's* relationship to games and intellectual property law, see generally Shubha Ghosh, *Patenting Games: Baker v. Selden Revisited*, 11 VAND. J. ENT. & TECH. L. 871 (2009).

Following *Baker*, the drawing of the printed circuit board in *Allied Leisure* was subject to copyright protection, but the board itself, even if limited only to the design elements supporting four-player functionality, probably was not. Just as they are currently protected under the Copyright Act of 1976,¹⁷¹ scientific and technical drawings were protectable under the Copyright Act of 1909.¹⁷² URL registered the copyright in the drawing—not the board itself—with the Copyright Office and then assigned the copyright in the drawing to Allied Leisure.¹⁷³ In the complaint, Allied Leisure claimed Midway infringed the copyright in the drawing.¹⁷⁴

Unlike the drawing of the board, it is not likely that the printed circuit board itself could be protected by copyright, either before or after the enactment of the Copyright Act of 1976. While a 1999 decision of the United States Court of Appeals for the Fifth Circuit upheld a jury's finding of infringement of a "printed circuit board assembly,"¹⁷⁵ the court said nothing about whether a printed circuit board is within the subject matter of copyright.¹⁷⁶ No reported decision considers this question,¹⁷⁷ but there are very good reasons for doubting a printed circuit board's eligibility for copyright protection, even though the Fifth Circuit once assumed something to the contrary. A printed circuit board is part of a machine, the usual domain of patent law.¹⁷⁸ Machines are not

¹⁷¹ See 17 U.S.C. § 102(a)(5) (2006) ("Works of authorship include the following categories: . . . pictorial, graphic, and sculptural works."); *id.* § 101 ("Pictorial, graphic, and sculptural works" include . . . charts, diagrams, models, and technical drawings, including architectural plans.").

¹⁷² See 17 U.S.C. § 5(i) (1970) ("Drawings or plastic works of a scientific or technical character."); 37 C.F.R. § 202.12(a) (1973) ("Works registrable in Class I include diagrams or models illustrating scientific or technical . . . information in linear or plastic form, such as, for example: a mechanical drawings.").

¹⁷³ See Registration of a Claim to Copyright in a Drawing or Plastic Work of a Scientific or Technical Character, Registration No. 11237 (July 2, 1973) ("Printed Circuit Part AL5500 Top and Bottom Sides"); Olliges Affidavit, *supra* note 129, at 3.

¹⁷⁴ See Complaint, *Allied Leisure Indus.*, *supra* note 8, at 3.

¹⁷⁵ *Alcatel USA, Inc. v. DGI Techs., Inc.*, 166 F.3d 772, 790–91 (5th Cir. 1999).

¹⁷⁶ See *id.*; John R. Ackerman, *Toward Open Source Hardware*, 34 U. DAYTON L. REV. 183, 205 (2009).

¹⁷⁷ *Id.* ("No reported United States case has determined whether a circuit board is so utilitarian that it is ineligible for copyright protection, and no scholarly journal appears to have considered the question."); DAVID A. BLUMENTHAL ET AL., *ELECTRONIC & COMPUTER PATENT & COPYRIGHT PRACTICE* 1:24 (Irving Kayton ed. 1988) ("No cases have been found which address the copyrightability of printed circuit boards having original layouts, although the drawings for the layouts are copyrightable.").

¹⁷⁸ See 35 U.S.C. § 101 (2006) ("Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title." (emphasis added)).

ordinarily afforded copyright protection.¹⁷⁹ Computer programs, for all the challenges they raise for copyright law,¹⁸⁰ at least involve text.¹⁸¹ Computer programs provide instructions to machines.¹⁸² The lines on a printed circuit board, by contrast, “say” nothing, not even to a machine. The lines are drawn with functional considerations in mind, such as minimizing the risk of a short circuit.¹⁸³ One set of drafting guidelines notes, “This is no time to get carried away with wild artwork. Keep the lines and [solder] pads in a practical format.”¹⁸⁴ Even with the components added to the printed circuit board, it is still just a collection of machine parts.¹⁸⁵ And as these boards are usually found inside of a machine, there would ordinarily be no reason to add aesthetic elements to the board separate from its utilitarian features.¹⁸⁶

¹⁷⁹ See *Taylor Instrument Cos. v. Fawley-Brost Co.*, 139 F.2d 98, 100 (7th Cir. 1943) (“[T]he chart neither teaches nor explains the use of the art. It is an essential element of the machine; it is the art itself. It is our judgment that plaintiff’s charts are not the proper subject of copyright.”); 1 MELVILLE B. NIMMER & DAVID NIMMER, *NIMMER ON COPYRIGHT* § 2.09[D][1] (2012) (“[T]he projector, the television, and the computer are not themselves copyrightable; each is a machine, usable by all (unless subject to a patent monopoly) for individual copyrightable works.”); Lloyd L. Weinreb, *Copyright for Functional Expression*, 111 HARV. L. REV. 1180–81 (1998) (“The first patent statute specified the subject matter of patent as a ‘useful art, manufacture, engine, machine, or device, or any improvement therein,’ categories that have remained substantially unchanged ever since.”); Pamela Samuelson et al., *A Manifesto Concerning the Legal Protection of Computer Programs*, 94 COLUM. L. REV. 2308, 2348, 2350 (1994) (“Copyright law has traditionally excluded machines and technological processes from its domain, leaving their protection to patent law. . . . Copyright law does not protect the behavior of physical machines (nor their internal construction), no matter how much originality they may embody. Historically, innovations in the design of machine behavior have been left to the rigors of patent law.”).

¹⁸⁰ See Samuelson et al., *supra* note 179, at 2347–56 (“Why Copyright Is Ill-Suited to Protecting Software Innovations”).

¹⁸¹ See *id.* at 2316; NAT’L COMM’N ON NEW TECHNOLOGICAL USES OF COPYRIGHTED WORKS, FINAL REPORT 9–12 (1979) (discussing computer programs as “a form of writing”).

¹⁸² See 17 U.S.C. § 101 (“A ‘computer program’ is a set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result.”); see also *Ricoh Co., Ltd. v. Quanta Computer, Inc.*, 550 F.3d 1325, 1335 (Fed. Cir. 2008).

¹⁸³ See GOLDBERG, *supra* note 123, at 23–27 (providing guidelines for the layout of printed circuit boards).

¹⁸⁴ *Id.* at 23.

¹⁸⁵ See FLATT, *supra* note 122, at 8 (“[P]rinted circuit boards provide a . . . method for interconnecting electronic components.”).

¹⁸⁶ See BLUMENTHAL ET AL., *supra* note 177, at 1:24–25. If someone added a non-utilitarian feature to a printed circuit board, it could be eligible for copyright protection. See *Mazer v. Stein*, 347 U.S. 201, 202, 213–14 (1954) (holding that “statuettes of male and female dancing figures” used as lamp bases are subject to copyright protection). On the unusual difficulties in this area of copyright law, see 1 NIMMER & NIMMER, *supra* note 179, § 2.08[B][3]; WILLIAM F. PATRY, 1 PATRY ON COPYRIGHT §§ 3:124–147 (Feb. 2012).

Much like Professor Arthur Miller's argument that computer programs should be subject to copyright protection because they involve "imagination, originality, and creativity,"¹⁸⁷ John Ackerman suggests that printed circuit boards should qualify for a thin or "weak" copyright because of the design choices involved.¹⁸⁸ According to Ackerman, "Given that the arrangement of components and wiring traces on a printed circuit board is subject to personal choices on the part of the designer, it is reasonable to argue that the circuit board is a work subject to copyright, but as with most of the outputs of the design process, that copyright is likely to be weak."¹⁸⁹ As Professor Dennis Karjala pointed out in response to Miller's argument about computer programs, the construction of a machine also involves personal choices on the part of the designer,¹⁹⁰ but again, machines are ordinarily not subject to copyright. The presence or absence of personal choice does not explain much about the respective domains of patent and copyright law.¹⁹¹ Printed circuit boards, as purely utilitarian objects, are unlikely to qualify even for a thin copyright.¹⁹²

The legal distinctions in this area are not without problems. A tennis video game can be generated by either hardware or software.¹⁹³ There were hardware versions of tennis, including Atari's *Pong* and its clones, and there were software versions, including Atari's *Video Olympics* cartridge released in 1977 for its VCS home console.¹⁹⁴ Both the hardware and software are functional, yet only the

¹⁸⁷ Arthur D. Miller, *Copyright Protection for Computer Programs, Databases, and Computer-Generated Works: Is Anything New Since CONTU?*, 106 HARV. L. REV. 977, 983–84 (1993) ("Computer programs, like other literary works, are expressive. The imagination, originality, and creativity involved in writing a program is comparable to that involved in more time-honored literary works and far exceeds various mundane efforts that have long enjoyed protection under the copyright rubric.").

¹⁸⁸ John R. Ackermann, *Toward Open Source Hardware*, 34 U. DAYTON L. REV. 183, 204 (2009).

¹⁸⁹ *Id.*

¹⁹⁰ See Dennis S. Karjala, *Copyright Protection of Computer Documents, Reverse Engineering and Professor Miller*, 19 U. DAYTON L. REV. 975, 996–97 (1994) ("Many technological works, from airplanes to electronic circuitry to drugs, involve much imaginative intellectual creativity.").

¹⁹¹ See *id.* (criticizing Professor Arthur Miller's argument that computer programs should be subject to copyright protection because they involve "imagination, originality, and creativity").

¹⁹² See BLUMENTHAL ET AL., *supra* note 177, at 1:24–25 (noting the difficulty of establishing copyright protection for a printed circuit board because the "layout is usually determined solely by utilitarian considerations").

¹⁹³ See, e.g., Dennis S. Karjala, *Distinguishing Patent and Copyright Subject Matter*, 35 CONN. L. REV. 439, 444 (2003) (referring to "the principle that for every general purpose computer running under the control of computer software there is an equivalent device consisting solely of hardware that is indistinguishable"); Samuelson et al., *supra* note 179, at 2319 ("Computer science has long observed that software and hardware are interchangeable: Any behavior that can be accomplished with one can also be accomplished with the other.").

¹⁹⁴ The *Video Olympics* cartridge included *Pong* and multiple variations of the original two-player

code for the software version of the game could qualify for copyright protection (at least after the changes to the copyright laws in 1976 and 1980).¹⁹⁵ Why the software version is protected but the hardware version is not may best be explained by longstanding conventions. Computer programs “fit comfortably within the expansively abstract definition of a literary work.”¹⁹⁶ Copper wiring—or copper traces on a printed circuit board—do not.

Thus, if Allied Leisure’s drawing of the circuit board was indeed protected by copyright, even though the board itself was not, did Midway infringe the copyright in the drawing by using Allied Leisure’s board to: (1) prepare its own drawing or (2) produce a circuit board based on that drawing? Even decades after the *Allied Leisure* case, there is still no clear answer from the courts, but based on the longstanding rule derived from *Baker v. Selden*, the answer was no. Midway did not infringe Allied Leisure’s copyright either by making the drawing or by producing the board. The copyright in a technical drawing does not prevent someone from using the drawing to build the object depicted.¹⁹⁷ Courts often hold that the constructed object is not even a “copy” of the drawing.¹⁹⁸ As one commentator described the issue in the context of

game. See VIDEO OLYMPICS (Atari 1977) (including eight versions of *Pong* and many other games); see also NICK MONFORT & IAN BOGOST, RACING THE BEAM: THE ATARI VIDEO COMPUTER SYSTEM 36–41 (2009) (discussing *Video Olympics*). For general, albeit very brief, discussions of Atari VCS/2600 programming, see Harry Dodgson, *Programming the 2600* part 1, 2600 CONNECTION, Jan.–Feb. 1992, at 4; Harry Dodgson, *Programming the 2600* part 2, 2600 CONNECTION, Sept.–Oct. 1992, at 6.

¹⁹⁵ The Copyright Office actually started registering computer programs in 1964, but questions remained about the copyrightability of computer programs under the Copyright Act of 1909. See 1 NIMMER & NIMMER, *supra* note 179, § 2.04[C][1] (“Beginning in May, 1964, the Copyright Office accepted registration of computer programs as ‘books’ under the 1909 Act. But the courts never definitively passed on the validity of Copyright Office practice under the 1909 Act in accepting registration of computer programs.”).

¹⁹⁶ Weinreb, *supra* note 179, at 1165.

¹⁹⁷ See *Robert R. Jones Assocs., Inc. v. Nino Homes*, 858 F.2d 274, 279–80 (6th Cir. 1988); *Nat’l Med. Care, Inc. v. Espiritu*, 284 F. Supp. 2d 424, 433–36 (S.D. W. Va. 2003); *Demetriades v. Kaufmann*, 680 F. Supp. 658, 661–66 (S.D.N.Y. 1988); *DeSilva Constr. Corp. v. Herral*, 213 F. Supp. 184, 195–96 (M.D. Fla. 1962); *Muller v. Triborough Bridge Auth.*, 43 F. Supp. 298, 299 (S.D.N.Y. 1942); *Burndy Eng’g Co. v. Penn-Union Elec. Corp.*, 25 F. Supp. 507, 509 (W.D. Pa. 1938); see also 1 NIMMER & NIMMER, *supra* note 179, § 2.18[D][2] (“The Permissibility of Copying Functionality”); PATRY, *supra* note 186, § 3:154:60 (“Technical drawings and plans”). Without identifying any courts that disagree, one recent decision said, “[M]ost courts agree that copying a structure depicted in plans, without copying the plans themselves, is not copyright infringement.” *Nat’l Med. Care, Inc. v. Espiritu*, 284 F. Supp. 2d 424, 435 (S.D. Va. 2003) (internal citations omitted).

¹⁹⁸ *Nucor Corp. v. Tenn. Forging Steel Serv., Inc.*, 476 F.2d 386, 391 n.8 (8th Cir. 1973); UNITED STATES COPYRIGHT OFFICE, THE REPORT OF THE REGISTER OF COPYRIGHTS ON WORKS OF ARCHITECTURE, at xiii (1989) (“A work of architecture is not considered a copy of the plans.”).

architectural plans, “An architectural plan is a technical writing. It is capable of being copied only by similar technical writings, that is, by other plans, etc. A structure is the result of plans, not a *copy* of them.”¹⁹⁹ Whether it is called a “copy” or not, the important point is that the constructed object does not infringe the copyright in the drawing. Nor does the copyright in a technical drawing prevent someone from engaging in a form of reverse engineering by examining and measuring the physical object to create a new technical drawing (which is called a “measured drawing” in the architectural field).²⁰⁰ A 1972 decision of the Fifth Circuit is on point.

In *Imperial Homes Corporation v. Lamont*,²⁰¹ Imperial Homes owned a copyright in the architectural drawings for its “Chateau” home design and sued the Lamonts for copyright infringement when they built a home matching the Chateau design.²⁰² There was no question that the Lamonts visited and measured a model Chateau home and then prepared the necessary drawings to construct a substantially similar home to the Chateau.²⁰³ In preparing their plans, the Lamonts did not copy from Imperial Homes’ original architectural drawings, but they *may* have copied from an advertising brochure that contained the Chateau’s floor plan.²⁰⁴ Invoking *Baker*, the Fifth Circuit said that a copyright in architectural plans does not give the author the exclusive right to build the structure.²⁰⁵ While it would have been infringing to create new plans by copying from the original plans—or in this case from the brochure—it would not have been infringing to create new plans based on the structure itself.²⁰⁶ The Fifth Circuit held that the Lamonts would be liable for infringement only if they copied the floorplan from the brochure.²⁰⁷ As the trial court had already determined that the Lamonts did not copy from the

¹⁹⁹ Arthur S. Katz, *Copyright Protection of Architectural Plans, Drawings, and Designs*, 19 LAW & CONTEMP. PROBS. 224, 236 (1951).

²⁰⁰ See Todd Hixon, *The Architectural Works Copyright Protection Act of 1990: At Odds with the Traditional Limitations of American Copyright Law*, 37 ARIZ. L. REV. 629, 654 (1995) (“In the context of intellectual property law, measured drawings can be characterized as a form of reverse engineering, which is recognized as a legally acceptable method of acquiring a technology. Plans derived from measured drawings should be viewed analogously as a legitimate and legal means to obtain the design of a constructed building.”); REPORT OF THE REGISTER, *supra* note 198, at 197.

²⁰¹ *Imperial Homes Corp. v. Lamont*, 458 F.2d 895 (5th Cir. 1972).

²⁰² *Id.* at 896–97.

²⁰³ *Id.* at 897.

²⁰⁴ *Id.*

²⁰⁵ *Id.* at 899.

²⁰⁶ *Id.* at 899–900.

²⁰⁷ *Id.* at 899.

architectural drawings, the court remanded the case to the trial court to determine whether they copied from the brochure.²⁰⁸

There was no evidence that Midway had access to Allied Leisure's drawing, let alone that Midway copied from it.²⁰⁹ The evidence indicates that Midway copied only from Allied Leisure's printed circuit board.²¹⁰ In copying only from the board itself, Midway prepared, as its chief engineer said, its own "original art work."²¹¹ And just as it was not infringing for the Lamonts to prepare plans based on the actual Chateau home, it should not have been infringing for Midway to prepare a drawing based on the actual Allied Leisure board. Midway's chief engineer denied that anyone traced the lines on the printed circuit board,²¹² but as far as the question of copyright infringement is concerned, it should not have mattered how Midway copied the board because the board was unprotected. As Midway did not copy from Allied Leisure's drawing, Midway did not infringe Allied Leisure's copyright in the drawing. Allied Leisure would have faced an uphill battle to persuade the district court or the Seventh Circuit to decide otherwise.

2. *Unfair Competition.* Allied Leisure's claim of unfair competition was somewhat stronger than its copyright claim, thanks to the uncertainty at the

²⁰⁸ *Id.* at 899–900.

²⁰⁹ See Blahuta Affidavit, *supra* note 95, at 3–4 (“[Neither he nor . . . anyone else . . . involved in the design of the board has ever seen any drawings. . . .”).

²¹⁰ See *id.*

²¹¹ See *id.* at 3 (“original art work was prepared”). Similarly, URL's William Olliges, who prepared the printed circuit board drawing for Allied Leisure, said it was an “original effort on [his] part,” even though Pearson's and Blahuta's accounts show the drawing owed much to *Pong*'s printed circuit board. Olliges Affidavit, *supra* note 129, at 2. It is true that a mere transfer of a work from one medium to another would not qualify as original. See *Schrock v. Learning Curve Int'l, Inc.*, 586 F.3d 513, 519 n.3 (7th Cir. 2009) (“[A] mere shift in medium, without more, is generally insufficient to satisfy the requirement of originality for copyright in a derivative work.”); *L. Batlin & Son, Inc. v. Snyder*, 536 F.2d 486, 4901–91 (2d Cir. 1976) (discussing the originality requirement for reproductions of a work in a different medium); *Millworth Converting Corp. v. Slifka*, 276 F.2d 443, 444–45 (2d Cir. 1960) (discussing when the reproduction of a work satisfies the originality requirement for copyright protection); *Wihtol v. Wells*, 231 F.2d 550, 553 (7th Cir. 1956) (same). Someone who transfers another person's unaltered image from a sheet of paper to a T-shirt probably cannot claim the image on the T-shirt is original, but a printed circuit board drawing, which is based on an underlying work that is not even subject to copyright protection, should be sufficiently different from the physical object to satisfy the originality standard (whether or not additional lines are added to change the functionality). Hence, Blahuta and Olliges were being truthful in claiming originality. Had Midway's engineers actually traced the lines on Allied Leisure's board and done nothing more, then perhaps it strains even copyright law's low standard for claiming originality, but there appears to be no caselaw applying the originality standard to reverse-engineered technical drawings.

²¹² See Blahuta Affidavit, *supra* note 95, at 3.

time in this area of the law. The Supreme Court narrowed the permissible scope of state unfair competition laws in *Sears, Roebuck & Company v. Stiffel Company*²¹³ and *Compco Corporation v. Day-Brite Lighting, Inc.*,²¹⁴ a pair of cases decided on the same day in 1964. *Sears* involved a pole lamp;²¹⁵ *Compco* involved a fluorescent lighting fixture.²¹⁶ In both cases, the lower courts held that the defendants violated Illinois's unfair competition law by copying the plaintiffs' products.²¹⁷ In both cases, the Supreme Court reversed, holding that state unfair competition laws that prohibit the copying of articles unprotected by either the patent or copyright laws conflict with and are therefore pre-empted by federal law.²¹⁸ The Court ruled that people have "free access to copy whatever the federal patent and copyright laws leave in the public domain."²¹⁹

Some lower courts resisted the broad language of *Sears* and *Compco* by holding that states could continue to prohibit unfair competition in the form of misappropriation. Neither *Sears* nor *Compco* referenced the Supreme Court's earlier decision in *International News Service v. Associated Press* (1918),²²⁰ the case that created the amorphous tort of misappropriation as a matter of federal common law.²²¹ In *International News Service*, the Court held that one news service could be enjoined from copying another news service's uncopyrighted material, at least for a short time while the news was commercially valuable.²²² While *Erie Railroad v. Tompkins* wiped out the federal version of misappropriation, it remained viable as a state law doctrine, unless blocked or limited by the Court's decisions in *Sears* and *Compco*.²²³ To insulate the

²¹³ 376 U.S. 225 (1964).

²¹⁴ *Id.* at 234.

²¹⁵ *See id.* at 225–26 (describing the pole lamp as "a vertical tube having lamp fixtures along the outside, the tube being made so that it will stand upright between the floor and ceiling of a room").

²¹⁶ *Compco*, 376 U.S. at 234.

²¹⁷ *Sears*, 376 U.S. at 226–27; *Compco*, 376 U.S. at 235–36.

²¹⁸ *Sears*, 376 U.S. at 231–33; *Compco*, 376 U.S. at 234.

²¹⁹ *Compco*, 376 U.S. at 237.

²²⁰ 248 U.S. 215 (1918).

²²¹ *See* *Confold Pac., Inc. v. Polaris Indus.*, 433 F.3d 952, 960 (7th Cir. 2006) (noting that the concept of unfair competition or misappropriation in *International News Service* was "based on the federal courts' subsequently abandoned authority to formulate common law principles" and suggesting that it lacked "reasonable limits"); Douglas G. Baird, *The Story of INS v. AP: Property, Natural Monopoly, and the Uneasy Legacy of a Concocted Controversy*, in *INTELLECTUAL PROPERTY STORIES* 9, 32 (Jane C. Ginsburg & Rochelle Cooper Dreyfuss eds., 2006) ("Justice Pitney's opinion lacked the essential quality that justifies common law adjudication. Its reasoning was entirely ungrounded. Instead of resolving an actual dispute between two opposing litigants, it merely gave an abstract pronouncement of a grand principle that has no obvious boundaries.").

²²² *Int'l News Serv.*, 248 U.S. at 232–41, 245–46.

²²³ *See* *Erie R.R. v. Tompkins*, 304 U.S. 64, 78 (1938) ("There is no federal general common

misappropriation doctrine from *Sears* and *Compco*, several lower court decisions relied on a dubious distinction between “copying” and misappropriation, a distinction based on the method of duplication and the extent of the copier’s or appropriator’s free-riding.²²⁴ These courts viewed “copying” as a high-cost and permissible form of duplication but “misappropriation” as a low-cost and therefore impermissible form of duplication.²²⁵ According to one Central District of California decision, the defendant could have copied the plaintiff’s public domain book if it had done its own typesetting.²²⁶ The district court said that that form of duplication would be copying,²²⁷ and that under *Sears* and *Compco*, a state could not prohibit copying.²²⁸ However, the defendant wanted to photographically reproduce the plaintiff’s book.²²⁹ The district court said that form of low-cost duplication would instead be misappropriation, something states could still prohibit under *Sears* and *Compco*.²³⁰

The Supreme Court later added to the confusion about the scope of *Sears*’s and *Compco*’s restrictions on state laws. While claiming to reaffirm *Sears* and *Compco* in 1973 in *Goldstein v. California*, the Court held that states *could* prohibit the unauthorized copying of sound recordings that are unprotected by federal copyright law.²³¹ Instead of finding a conflict between state and federal law as it did in *Sears* and *Compco*, the Court said Congress simply left “unattended” the status of sound recordings made or “fixed” prior to a certain date.²³² In May 1974, a month after *Allied Leisure* settled, the Supreme Court reached a similar conclusion about state trade secret law in *Kewanee Oil Company v. Bicron*

law.”); *Barclays Capital Inc. v. Theflyonthewall.com, Inc.*, 650 F.3d 876, 894 (2d Cir. 2011); *Intermountain Broad. & Television Corp. v. Idaho Microwave, Inc.*, 196 F. Supp. 315, 321–22 (D. Idaho 1961). *Cf.* *Cont’l Cas. Co. v. Beardsley*, 151 F. Supp. 28, 42 (S.D.N.Y. 1957) (“The [unfair competition] issue is a complex one, and even if state law is authoritative, it is by no means clear that the federal courts will always be bound by the rigidities of the *Erie* doctrine.”).

²²⁴ See *Compumarketing Servs. Corp. v. Bus. Envelope Mfrs., Inc.*, 342 F. Supp. 776, 777–78 (N.D. Ill. 1972); *Tape Indus. Ass’n v. Younger*, 316 F. Supp. 340, 350 (C.D. Cal. 1970); *Grove Press, Inc. v. Collectors Publ’n, Inc.*, 264 F. Supp. 603, 606–07 (C.D. Cal. 1967).

²²⁵ See Note, *The “Copying-Misappropriation” Distinction: A False Step in the Development of the Sears-Compco Pre-Emption Doctrine*, 71 COLUM. L. REV. 1444, 1445 (1971).

²²⁶ *Grove Press*, 264 F. Supp. at 605–07.

²²⁷ *Id.* at 607.

²²⁸ *Id.* at 606.

²²⁹ *Id.*

²³⁰ *Id.* at 607. The court did not use the term “misappropriation,” but it used the term “unfair competition” and cited the Supreme Court’s decision in *International News Service. Id.*

²³¹ 412 U.S. 546, 571 (1973).

²³² *Id.* at 570. The relevant date is February 15, 1972. *Id.* at 552. For an overview of the status of sound recordings fixed before or after the critical date, see 1 NIMMER & NIMMER, *supra* note 179, § 2.10.

Corporation, holding that trade secret law is not pre-empted by federal patent law.²³³ In *Kewanee*, the Court took a more “pragmatic” approach to preemption than what was suggested by the “absolutist” language in *Sears* and *Compco*.²³⁴ The Court said that trade secret law does not result in protection for publicly disclosed patentable subject matter.²³⁵ The “weaker protection” of trade secret law does not prohibit either independent creation or reverse engineering, and trade secret law promotes privacy interests by prohibiting corporate espionage.²³⁶ Additionally, patent law and trade secret law have long coexisted without disruptive consequences or objections from Congress.²³⁷

There was enough uncertainty and variation about the extent to which states could prohibit misappropriation as a form of unfair competition to put Allied Leisure’s unfair competition claim in a better position than its copyright claim, but it was still unlikely to succeed. As in *Sears* and *Compco*, the printed circuit board was patentable subject matter. It was not, as in *Goldstein*, something outside the subject matter of both federal patent and copyright law.²³⁸ Nor was it, as in *Kewanee Oil*, something the owner tried to keep secret and out of the public domain.²³⁹ Even if the case had not settled and the district court in *Allied Leisure* had made a distinction between copying and misappropriation, the court would have needed to define some form of duplication as copying and some form as misappropriation. The fact that Midway did not trace the lines on Allied Leisure’s board should have kept its method of duplication in the copying category. (If not, where would the line have been?) Plus, Midway was not marketing just a duplicated board. It was marketing its own fully functional cabinet arcade game. The board was just one component. Much of what Midway was doing was therefore based on its own work and effort. Midway’s actions were quite different from a book publisher selling a photocopy of a public domain book originally published by a competitor. Nevertheless, as other decisions suggest, the court could have defined misappropriation broadly

²³³ *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470 (1974).

²³⁴ *Bonito Boats v. Thunder Craft Boats*, 489 U.S. 141, 154–56 (1989). The Court said, “Read at their highest level of generality, the two decisions [in *Sears* and *Compco*] could be taken to stand for the proposition that the States are completely disabled from offering any form of protection to articles or processes which fall within the broad scope of patentable subject matter.” *Id.* at 154.

²³⁵ *Kewanee Oil*, 416 U.S. at 484. See *Bonito Boats*, 489 U.S. at 155 (discussing *Kewanee Oil*).

²³⁶ *Kewanee Oil*, 416 U.S. at 487, 489–90. See *Bonito Boats*, 489 U.S. at 155 (discussing *Kewanee Oil*).

²³⁷ *Kewanee Oil*, 416 U.S. at 493. See *Bonito Boats*, 489 U.S. at 155–56 (discussing *Kewanee Oil*).

²³⁸ See *Goldstein*, 412 U.S. at 571 (“Congress has indicated neither that it wishes to protect, nor to free from protection, recordings of musical performances fixed prior to February 15, 1972.”).

²³⁹ See *Kewanee Oil*, 416 U.S. at 484 (“[T]he policy that matter once in the public domain must remain in the public domain is not incompatible with the existence of trade secret protection.”).

enough to encompass Midway's action and *Sears* and *Compco* narrowly enough to avoid preempting the claim.²⁴⁰

B. SETTLEMENT

After the court denied Allied Leisure's motions for a temporary restraining order and a preliminary injunction, the parties perhaps made some progress in the discovery process,²⁴¹ but the case settled on April 12, 1974 before any decision on the merits.²⁴² Apart from their views of the merits, the parties' willingness to settle may have been influenced by some other developments. A little over two months before the settlement, on January 31, 1974, Allied Leisure's facility caught fire and suffered extensive damage.²⁴³ Of likely concern to both parties, sales of video games were on the decline. Although Allied Leisure continued to produce some games for Europe, it stopped producing games for the United States sometime before the fire.²⁴⁴ Midway faced similar market conditions and stopped producing video games in April or May of

²⁴⁰ A relevant example from the Northern District of Illinois is *Data Cash Sys., Inc. v. JS&A Grp., Inc.*, 480 F. Supp. 1063 (N.D. Ill. 1979). The district court said,

In *Goldstein* a California statute making it a criminal offense to pirate recordings produced by others was challenged and the Supreme Court held *inter alia* that the California statute did not violate the Supremacy Clause of the Constitution. In so holding, the Supreme Court distinguished *Sears* and *Compco* from *Goldstein* on the grounds that in *Sears* and *Compco* the state was giving protection which conflicted with the objectives of the federal patent laws while in *Goldstein* the state was giving protection which did not conflict with any federal law. Since Congress had left the area of sound recordings unprotected, the state was free to act.

Id. at 1070–71. So far, this was an unobjectionable statement of the law, but the court then added, “Thus, states may prohibit the misappropriation of a property right or a commercial advantage of another.” *Id.* at 1071. This broad conclusion did not follow. The states could only prohibit unfair competition *to the extent that the prohibition did not conflict with federal law*, and the court did not evaluate that possibility. In *Data Cash*, the relevant “article” was computer object code embodied in ROM. *Id.* at 1066. The court defined the object code as a “mechanical tool or machine part” without also defining it as outside of both patent and copyright law, as in *Goldstein*. *Id.* at 1065, 1069. See also *Data Cash Sys., Inc. v. JS&A Grp., Inc.*, No. 79-591, 1984 U.S. Dist. LEXIS 18446, at *12–17 (N.D. Ill. Mar. 20, 1984) (discussing the preemption issue without resolving it).

²⁴¹ See Civil Docket-Allied Leisure, *supra* note 149, at 1 (recording defendant's notice of taking deposition and plaintiff's request for production of documents and things).

²⁴² Stipulated Dismissal Order-*Allied*, *supra* note 15.

²⁴³ See Braun Deposition, *supra* note 1, at 7 (“That [fire] wiped us out pretty much of everything.”); *Ghostly Firemen*, NEWS TRIB., Feb. 1, 1974, at 2 (“The blaze was at an Allied Leisure Industries building in Hileah. No major injuries were reported.”).

²⁴⁴ Braun Deposition, *supra* note 1, at 10.

1974.²⁴⁵ Indeed, in an assessment that later proved quite inaccurate, David Braun said the video game industry was “played out like yesterday’s newspaper.”²⁴⁶ Additionally, there was potentially costly patent litigation ahead for both Allied Leisure and Midway.

The new legal threat to Allied Leisure and Midway involved patents owned by Sanders Associates (a defense contractor) and licensed by Sanders to Magnavox.²⁴⁷ Well before the *Allied Leisure* lawsuit began, Magnavox was aware of Midway’s arrangement with Atari to produce a *Pong* game.²⁴⁸ In an April 2, 1973 letter, Magnavox offered Midway a non-exclusive license for two patents.²⁴⁹ The first was U.S. Patent No. 3,659,284 (the ‘284 patent”), which was issued in the name of inventor William Rusch.²⁵⁰ The second was U.S. Patent No. 3,659,285 (“the ‘285 patent”), which was issued in the names of Ralph Baer, William Rusch, and William Harrison,²⁵¹ the original design team at Sanders for what became the Magnavox Odyssey.²⁵² In a subsequent May 24, 1973 letter, Magnavox informed Midway of a third patent that had recently issued,²⁵³ Ralph Baer’s U.S. Patent No. 3,728,480 (“the ‘480 patent”),²⁵⁴ which Judge John F. Grady of the Northern District of Illinois later described as the “pioneer patent” of the video game industry.²⁵⁵ Braun said that he discussed the Magnavox patents with Henry Ross during the litigation between their two companies,²⁵⁶ so both Allied Leisure and Midway were aware of Magnavox’s

²⁴⁵ Ross Deposition, *supra* note 45, at 23 (stating on June 25, 1974 that Midway had not made any games “for approximately one month, two months” because “[m]arket conditions did not dictate making any further video games”).

²⁴⁶ Braun Deposition, *supra* note 1, at 9.

²⁴⁷ BAER, VIDEOGAMES: IN THE BEGINNING, *supra* note 2, at 18, 56–59.

²⁴⁸ Letter from Thomas A. Briody to Midway Mfg. Co. (Apr. 2, 1973), Exhibit A to Memorandum in Support of the Motion of Defendant Midway Mfg. Co. to Sever and Transfer, *Magnavox Co. v. Bally Mfg. Co.*, Nos. 74 C 1030, 74 C 2510 (N.D. Ill. Sept. 9, 1975).

²⁴⁹ *Id.*

²⁵⁰ Television Gaming Apparatus, U.S. Patent No. 3,659,284 (filed May 27, 1969).

²⁵¹ Television Gaming Apparatus and Method, U.S. Patent No. 3,659,285 (filed Aug. 21, 1969).

²⁵² See BAER, VIDEOGAMES: IN THE BEGINNING, *supra* note 2, at 30–39, 44–45, 58–59 (discussing the development of the Magnavox Odyssey); Trial Transcript, at 352, *Magnavox Co. v. Chi. Dynamic Indus.*, Nos. 74 C 1030, 74 C 2510 (N.D. Ill. Dec. 27, 1976) (referring to a stipulation that the patents at issue “resulted from work done at Sanders by a research group which first included Ralph H. Baer and at least as early as May, 1967 also included William L. Harrison and William T. Rusch”).

²⁵³ See Letter from Thomas A. Briody to Midway Mfg. Co. (May 24, 1973), Exhibit B to Memorandum in Support of the Motion of Defendant Midway Mfg. Co. to Sever and Transfer, *Magnavox Co. v. Bally Mfg. Co.*, Nos. 74 C 1030, 74 C 2510 (N.D. Ill. Sept. 9, 1975).

²⁵⁴ Television Training and Gaming Apparatus, U.S. Patent No. 3,728,480 (filed Mar. 22, 1971).

²⁵⁵ *Magnavox*, 1977 U.S. Dist. LEXIS 17996, at *2.

²⁵⁶ See Braun Deposition, *supra* note 1, at 60–61.

potential claims. Midway even decided to act first in what would turn out to be the video game industry's longest series of intellectual property disputes, disputes mainly about the '507 patent.

The opening moves of the '507 litigation occurred the same week Allied Leisure and Midway settled.²⁵⁷ On April 12, 1974, the actual day of the settlement, Midway filed a complaint against Magnavox and Sanders seeking a declaratory judgment of non-infringement of four patents: the '284, the '285, the '480, and another one issued to William Rusch, U.S. Patent No. 3,778,058.²⁵⁸ Midway filed the complaint in the United States District Court for the Southern District of New York.²⁵⁹ Presumably, Midway preferred a district court in the Second Circuit because of its long-standing reputation for ruling against patent owners.²⁶⁰ Magnavox responded a few days later on April 15, 1974, by filing a complaint in the Northern District of Illinois against Bally, Chicago Dynamic Industries, Atari, Allied Leisure Industries, and Empire Distributing,²⁶¹ the latter a subsidiary of Bally that distributed coin-operated games.²⁶² Like Midway, Magnavox was probably forum-shopping, as the Seventh Circuit's reputation at the time was more favorable to patent owners than the Second Circuit's.²⁶³ Although Magnavox initially omitted Midway from the list of defendants, Magnavox added Midway the following month in an amended complaint.²⁶⁴ In its original and first amended complaints,

²⁵⁷ Compare Complaint for Declaratory Relief, *Midway Mfg. Co. v. Magnavox Co.*, No. 74 C 1657 (S.D.N.Y. Apr. 12, 1974) [hereinafter Complaint for Declaratory Relief-*Midway*], Exhibit C to Memorandum in Support of the Motion of Defendant Midway Mfg. Co. to Sever and Transfer, Nos. 74 C 1030, 74 C 2510 (N.D. Ill. Sept. 1975), and Complaint for Patent Infringement, *Magnavox Co. v. Bally Mfg. Corp.*, No. 74 C 1030 (N.D. Ill. Apr. 15, 1974) [hereinafter Complaint for Patent Infringement-*Magnavox*], with Stipulated Dismissal Order-*Allied*, *supra* note 15 (Apr. 12, 1974).

²⁵⁸ Method of Employing A Television Receiver for Active Participation, U.S. Patent No. 3,778,058 (filed June 17, 1971).

²⁵⁹ Complaint for Declaratory Relief, *supra* note 257.

²⁶⁰ See GLORIA K. KOENIG, PATENT INVALIDITY: A STATISTICAL AND SUBSTANTIVE ANALYSIS 4-28 (rev. ed. 1980). From 1953 to 1972, the Second Circuit found only 14.3% of patents both valid and infringed.

²⁶¹ See Complaint for Patent Infringement-*Magnavox*, *supra* note 257.

²⁶² Affidavit of James F. Segerson, *Allied Leisure Indus. v. Midway Mfg. Co.*, No. 74 C 2682 (N.D. Ill. Oct. 19, 1974); Ross Deposition, *supra* note 45, at 40.

²⁶³ See KOENIG, *supra* note 260, at 4-48, App. 171. From 1953 to 1972, the Seventh Circuit found 38% of patents valid and infringed. Although 1973 was the start of a bad run for patent owners before the Seventh Circuit, it seems unlikely that the Seventh Circuit's reputation would have changed much by the time Magnavox filed suit in April 1974.

²⁶⁴ See Civil Docket-*Magnavox*, *supra* note 63, at 2 (noting the filing of the first amended complaint); First Amended Complaint for Patent Infringement, *Magnavox Co. v. Bally Mfg. Co.*, No. 74 C 1030 (N.D. Ill. May 22, 1974) [hereinafter First Amended Complaint for Patent

Magnavox claimed the defendants infringed the '284 and '285 patents.²⁶⁵ By the time Magnavox filed its second amended complaint, the Patent Office had reissued the '284 patent as U.S. Patent Reissue No. 28,507.²⁶⁶ It was this patent, the "oft-litigated '507 patent,"²⁶⁷ that became the critical one during Magnavox's years of litigation against many of the industry's major players.²⁶⁸ Magnavox's litigation over the '507 patent against various defendants lasted at least until 1998,²⁶⁹ and it all started just as *Allied Leisure* ended.²⁷⁰

The terms of the April 1974 settlement between Allied Leisure and Midway are not in the record or revealed elsewhere. During the '507 litigation, David Braun was asked if Allied Leisure had granted Midway any rights to produce

Infringement-Magnavox].

²⁶⁵ See Complaint for Patent Infringement-Magnavox, *supra* note 257; First Amended Complaint for Patent Infringement-Magnavox, *supra* note 264.

²⁶⁶ The '285 patent was also reissued, as U.S. Patent No. Re. 28,598. See Second Amended Complaint for Patent Infringement, at 2-3, Magnavox Co. v. Bally Mfg. Co., No. 74 C 1030 (N.D. Ill. Nov. 4, 1975); Civil Docket-Magnavox, *supra* note 63, at 15 (noting the filing of the second amended complaint).

²⁶⁷ Nintendo of Am., Inc. v. Magnavox Co., 659 F. Supp. 894, 897 (S.D.N.Y. 1987).

²⁶⁸ See Magnavox Co. v. Mattel, Inc., No. 80-4124, 1982 U.S. Dist. LEXIS 13773, at *1 (N.D. Ill. July 29, 1982) ("This is a patent infringement suit in which the plaintiffs charge defendants Mattel, Inc. and others, with infringement of U.S. Reissue Patent No. Re. 28,507 . . . by the manufacturer, use, or sale of certain Intellivision video games. Evidence now of record reveals the phenomenon of a patent that heralded the beginning of an industry, the home video game."); Magnavox, 1977 U.S. Dist. LEXIS 17996, at *16-17 ("I do find that the defendants' games infringe the plaintiff's '507 patent."); see also BAER, VIDEOGAMES: IN THE BEGINNING, *supra* note 2, at 126 ("The '507 Claims became the main determining factors of whether a game infringed, or didn't").

²⁶⁹ Some of the more well-known video game industry defendants—or declaratory judgment plaintiffs—beyond those already mentioned included the following: Williams Electronics, Inc. (filed in 1974); Taito America Corporation (and Universal Research Laboratories) (filed in 1977); Mattel, Inc. (filed in 1980); Activision, Inc. (filed in 1982); Nintendo of America, Inc. (filed in 1986); Sega of America, Inc. (filed in 1989); and Capcom, USA Inc., Data East USA, Inc., Konami (America) Inc., SNK Corporation of America, Taito America Corporation, and Tecmo, Inc. (filed in 1993). See Complaint, Magnavox Co. v. Seeburg Indus., Inc., No. 74 C 2510 (N.D. Ill. Aug. 30, 1974); Magnavox Co. v. APF Elecs., Inc., No. 77 C 3159, 1977 U.S. Dist. LEXIS 12689 (N.D. Ill. Nov. 29, 1977); Magnavox Co. v. Mattel, Inc., No. 80-4124, 1982 U.S. Dist. LEXIS 13773 (N.D. Ill. July 29, 1982); Magnavox Co. v. Activision, Inc., No. 82-5270, 1986 U.S. Dist. LEXIS 30999 (N.D. Cal. Mar. 13, 1986); *Nintendo of America*, 659 F. Supp. at 894-95; Civil Docket, Magnavox Co. v. Sega of Am., Inc., No. 89-1380 (N.D. Cal. Apr. 20, 1989); Civil Docket, N. Am. Philips Corp. v. Am. Vending Sales, No. 94-1146 (N.D. Ill. June 1, 1993). Taito, which is on the list twice, was indeed a repeat defendant. See N. Am. Philips Corp. v. Am. Vending Sales, No. 93-3261, 1993 U.S. Dist. LEXIS 16216, at *1-24 (N.D. Ill. 1993), *rev'd in part*, 35 F.3d 1576 (Fed. Cir. 1994).

²⁷⁰ See *supra* text accompanying note 257.

Allied Leisure's games or printed circuit boards.²⁷¹ He answered that he did not know, but Braun did say that the lawsuit between Allied Leisure and Midway settled "amicably."²⁷²

IV. CONCLUSION

Allied Leisure illustrates the challenge the early video game industry faced in protecting its investments in creativity. At least at the beginning, however, it is not clear that the industry needed more protection. In a well-known article published in 1970, Professor (now Justice) Stephen Breyer concluded that "the general case for copyright protection is weak" and that publishers might have sufficient incentives to publish books and software even without protection from copiers.²⁷³ In part, book publishers might be able to rely on their lead time over copiers (approximately six to eight weeks as a 1970 estimate).²⁷⁴ Software publishers might be able to rely, at least in part, on the revenue they receive from the sale of both hardware and support services that go with the software.²⁷⁵ *Pong* was not a book, nor was it software. However, similar incentives could apply to arcade games. Atari benefitted from as much as three months of lead time, and it sold the *Pong* game as part of a dedicated arcade cabinet. Producing an arcade game was expensive. At the time Allied Leisure filed its suit, Midway's cost of materials alone for each *Winner IV* game was \$515.²⁷⁶ Early arcade games may illustrate the merits of Breyer's argument.

The lack of effective protection under the copyright and unfair competition laws may have promoted the quick establishment of the industry, facilitating the easy entry of many arcade game manufacturers into the video game business without the need to negotiate with Atari. Future innovation, however, likely required more protection than what was available under the patent or other laws. Nolan Bushnell soon came to think so.²⁷⁷

²⁷¹ See Braun Deposition, *supra* note 1, at 58–59.

²⁷² *Id.*

²⁷³ Stephen Breyer, *The Uneasy Case for Copyright: A Study of Copyright in Books, Photocopies, and Computer Programs*, 84 HARV. L. REV. 281, 350 (1970).

²⁷⁴ *Id.* at 299–300.

²⁷⁵ *Id.* at 344–46.

²⁷⁶ Affidavit of Malachy L. Hannigan at 2, *Allied Leisure Indus. v. Midway Mfg.*, No. 73 C 2682 (N.D. Ill. Oct. 19, 1973).

²⁷⁷ Bushnell found the patent system ineffective for Atari, at least early on. See Bushnell, *supra* note 30, at approximately minute 35:45; see also Lowood, *supra* note 29, at 18–19 (discussing Atari's attempts to enforce its patents).

At a major trade show in Chicago—probably the one in November 1973²⁷⁸—Bushnell offered a lengthy “rant” (his word) at other industry representatives who had produced clones and variations of Atari’s *Pong*.²⁷⁹ He argued that copying was undermining innovation in the industry.²⁸⁰ Bushnell even thought that industry practices changed after that particular event.²⁸¹ Assuming his perception of changes in industry practices was correct, maybe Bushnell was particularly persuasive. Maybe the *Allied Leisure* lawsuit affected industry practices. Maybe other causes were at work. But the cost of producing games would rise and the cost of copying would fall. While a single arcade game cost several hundred dollars to copy in the early 1970s, games sold for the home market on cartridges, floppy disks, CD-ROMs, DVDs, and Blu-rays were and are much cheaper to copy—costing pennies or a few dollars at most.²⁸² Yet the budgets for home games can now be in the millions of dollars.²⁸³

Better protection than what was initially available was needed, and the availability of copyright protection did improve (and perhaps even went too far). In part, the scope of protection increased through the video game industry’s switch from hardware to software and through the protection afforded to computer programs under the Copyright Act of 1976 and its amendments in the Computer Software Copyright Act of 1980.²⁸⁴ Protection

²⁷⁸ See *Jukebox Meetings*, BILLBOARD, Oct. 20, 1973, at 33 (listing the date of the Music Operators of America exposition as November 9–11, 1973). Bushnell’s comments in 2003 were not completely clear about the year—it could have been the 1974 exposition rather than the 1973 exposition—but the 1973 exposition seems more likely, based on what he said. See Bushnell, *supra* note 30, at approximately minute 40:00. My efforts to locate a copy of the program from the 1973 exposition, which might have resolved any doubts about the date, were not successful.

²⁷⁹ Bushnell, *supra* note 30, at approximately minute 40:00.

²⁸⁰ *Id.*

²⁸¹ *Id.*

²⁸² *Fortune* reported in 1982 that the cost of materials for a cartridge, the most expensive of these several media formats, was \$4 to \$5. Andrew C. Brown, *Cashing in on the Cartridge Trade*, FORTUNE, Nov. 15, 1982, at 125.

²⁸³ See, e.g., Chris Suellentrop, *War Games*, N.Y. TIMES, Sept. 12, 2010, at 64 (“[T]he entrance fee to develop a big-budget, mainstream video game is now north of \$20 million.”).

²⁸⁴ See 17 U.S.C. § 101 (defining “computer program”); *Vault Corp. v. Quaid Software, Ltd.*, 847 F.2d 255, 259–61 (5th Cir. 1988) (discussing the evolution of software protection); 1 NIMMER & NIMMER, *supra* note 179, § 2.04[C]; Samuelson et al., *supra* note 179, at 2348 n.146 (“The turning point in the international debate about legal protection for computer programs came in 1980 when the United States Congress endorsed the recommendations of the CONTU Commission favoring copyright protection for programs.”). The first arcade video game with a microprocessor and computer program was Midway’s pathbreaking 1975 game *Gun Fight*. BURNHAM, *supra* note 17, at 120. Yet another new source of limited protection was the Semiconductor Chip Protection Act of 1984, 17 U.S.C. §§ 901–914. See 1 NIMMER & NIMMER,

also increased through the judicial decisions extending copyright protection to the audio-visual elements of games.²⁸⁵ To some extent, courts even extended protection to game mechanics in video games, despite the restriction on protecting methods and processes under 17 U.S.C. § 102(b).²⁸⁶ At least some of this increased protection was surely needed to promote further creativity in the video game industry, particularly as the home gaming market developed, but for a short time, the lack of effective protection may have accelerated the industry's development.

supra note 179, §§ 8A.02–12 (“Subject Matter of Chip Protection.”).

²⁸⁵ See *Red Baron-Franklin Park, Inc. v. Taito Corp.*, 883 F.2d 275, 278 (4th Cir. 1989); *Midway Mfg. Co. v. Artic Int'l, Inc.*, 704 F.2d 1009, 1012 (7th Cir. 1983); *Stern Elecs., Inc. v. Kaufman*, 669 F.2d 852, 855–57 (2d Cir. 1982).

²⁸⁶ See 17 U.S.C. § 102(b); UNITED STATES COPYRIGHT OFFICE, Form Letter 108 (Dec. 2011) (“Copyright does not protect the idea for a game, its name or title, or the method or methods for playing it.”), available at <http://www.copyright.gov/fls/fl108.html>. Examples of protecting game methods or processes arguably can be found in cases like *Midway Mfg. Co. v. Artic Int'l, Inc.*, in which the Seventh Circuit held that an unauthorized kit that sped up *Galaxian* infringed the copyright in the game, even though the kit arguably affected only the game's unprotected processes or methods of play. *Midway Mfg.*, 704 F.2d at 1013–14. See generally Thomas M.S. Hemnes, *The Adaptation of Copyright Law to Video Games*, 131 U. PA. L. REV. 171 (1982). In theory, *Pong* and similar early games might be protected by claiming copyright protection in the audio-visual displays of the games, but other than the modest sound effects, *Pong* has no aesthetic elements unrelated to the method or process for playing the game. Protecting the audio-visual display of *Pong* through copyright would therefore mean the method or process for playing a game *is* protectable, despite the black letter rule to the contrary. But for all practical purposes, the black letter rule is probably wrong. See *Tetris Holding, LLC v. Xio Interactive, Inc.*, 863 F. Supp. 2d 394 (D.N.J. 2012).

