



## Adventures in video game litigation: Patent cases past and present



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inSL: Aviator Kidd

## Why we're here

- Learn about intellectual property
- Discuss the cross section of video games and intellectual property law
- Analyze 10 different video game lawsuits
- Understand why patents are important to video game developers
- Play games in the exhibit hall until we pass out from exhaustion



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## The fine print

- Patents are a reality, even if you don't like them or believe in their merit.
- This is not a debate about whether or not video games should be patentable—They are.
- The views expressed herein should not be attributed to my firm or to any of my clients (and they might not even be my own views, either).
- If you hire me, I will be happy to believe whatever you pay me to believe.

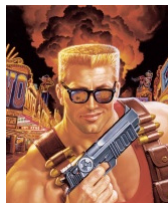


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## What is intellectual property?

- Trademarks
  - Source identifier
- Copyrights
  - Creative Expression
- Trade Secrets
  - Secrets w/ commercial value
- Patents
  - Functional IDEAS!



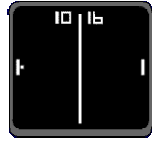
Duke Nukem Forever will be released on ... ?



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## Video game patent examples



- RE 28,507 – PONG!
- U.S. 7,077,749 – Weather simulation in MS Flight Simulator
- 6,641,481 – MS quitters play together patent
- 6,132,314 – Namco's rowing arcade game
- 6,261,179 – StarFox allows user to select level
- 6,733,383 – EA caution periods in auto-race simulations
- 6,695,694 – Konami Dance Dance Revolution arcade game
- 6,764,402 – Pokemon
- 6,935,954 – Sanity level in a video game
- 6,729,954 – Dynasty Warriors
- 6,923,717 – Adrenaline rush in sports games
- 6,604,008 – Kudos in PGR

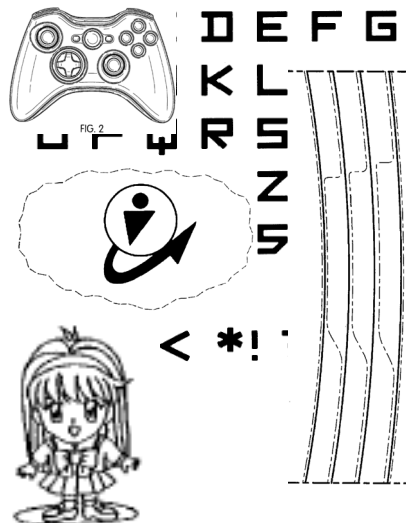


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## Design patents

- Design Patents
  - Hardware Designs
  - Software Designs - Any image displayed on a display screen, e.g.,
    - Icons
    - Fonts
    - Graphical User Interfaces
    - Characters - D404,390



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## 1. The first lawsuit

"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."

"The '480 patent, I think, is the pioneer patent in this art, and I refer to the art of playing games on a small scale, with the players participating in the game in an environment such as a home or someplace where a large computer would clearly not be available."

And now, the 10 cases...

"Now turning to the question of infringement, I believe that the defendants' games do infringe the claims of the '507 patent to the extent that they contain or use a player-controlled movable hitting symbol which, when it coincides with a hit symbol, causes a change in direction of that hit symbol."

"My own view as to what art is involved here is that we are dealing with the art of playing games on cathode ray tubes by means of electronic circuitry. The state of that art immediately prior to the '480 invention, I think, was rather primitive."



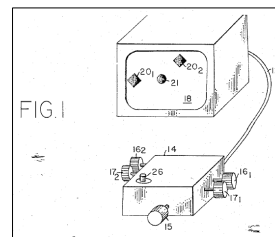
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## 1. The first lawsuit

Video Game Patents are Enforceable!

- *The Magnavox Co. v. Chicago Dynamic Industries*, 201 USPQ 25 (N.D. Ill 1977)
- The Odyssey Patent: RE28,507
- Ralph Baer invented the Magnavox Odyssey
- Nolan Bushnell: Pong
- Check out [www.RalphBaer.com](http://www.RalphBaer.com) for more history of the early video game lawsuits



(Photo courtesy of David Winter, Pong Story)



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## 2. The backup plan

Don't rely on  
copyrights alone. A  
mix of IP is best.

- *Atari Games Corp. v. Nintendo of Am., Inc.*
  - Prelim. Inj: 975 F.2d 832 (Fed. Cir. 1992).
  - Final disposition: 30 USPQ2d 1401 (N.D. Cal. 1993)
- Nintendo has lock & key software ("10NES") for NES console to prevent unauthorized games from being played on the console
- Atari didn't want to pay license fee to Nintendo for a "key" to the 10NES "lock"
- Nintendo loses functional part of copyright infringement claim, but...
- Nintendo has patent 4,799,635



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## 2. The backup plan

1. A system for determining whether a videographics software program is authorized for use in an information processing apparatus, comprising:
  - a main data processor unit for executing a videographics software program;
  - an external memory for storing the videographics software program and for removable connection to said main processor unit, said external memory and main processor unit together constituting the information processing apparatus for executing the videographics software program;
  - a first authenticating processor device associated with said external memory for executing a first predetermined authenticating program to determine the authenticity of said external memory;
  - a second authenticating processor device which is installed in said main data processor unit for executing a second predetermined authenticating program to determine the authenticity of said external memory; and
  - control means for resetting said main data processor unit unless the execution of said first authenticating program by said first processor device exhibits a predetermined relationship to the execution of said second authenticating program by said second processor device.



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### 3. But I didn't mean it...

Statements made during patent prosecution can come back to haunt you.

- *Alpex Computer Corp. v. Nintendo Co.*
  - 102 F.3d 1214 (Fed. Cir. 1996)
- U.S. Pat. **4,026,555**: Alpex invented *rotating* paddles, but did so using bit-mapping
- Nintendo used 8 shift registers
- Trial Court: Infringement = \$253,641,445
- Appellate Court:
  - In prosecution history, Alpex argued differences between bit-mapping and the use of shift registers
  - No infringement, based on prosecution history estoppel



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### 4. The pen is mightier...

A solid patent is worth millions.

- *Immersion v. Sony*, District Court for the Northern District of California, Case No. 02-cv-0710
- Tactile feedback in man-machine interface device, i.e., game controllers
- U.S. Pat. **6,275,213** and **6,424,333**
- Microsoft settles for \$26M + percentage of award received from Sony, if any
- Sony loses, later settles for \$150M (of which ~\$20M goes to Microsoft)



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## 5. If I only had a...

Copyrights are not enough for protecting video games.

- *Sega v. Accolade*, 977 F.2d 1510 (9<sup>th</sup> Cir. 1992)
  - Accolade's reverse engineering of Sega's code is not copyright infringement, despite Accolade's intermediate copying to do so
  - Reverse engineering to gain access to unprotectable functional elements of copyrighted work is ok
  - "In order to enjoy a lawful monopoly over the idea or functional principle underlying a work, the creator of the work must satisfy the more stringent standards imposed by the patent laws."
- **COPYRIGHTS DO NOT PROTECT FUNCTION!**



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## 5. If I only had a...

Only patents protect "useful" ideas.

- *Incredible Tech. v. Virtual Tech.*
  - 400 F.3d 1007 (7<sup>th</sup> Cir. 2005)
  - IT makes Golden Tee Golf
  - VT made PGA Tour Golf
  - VT copied user interface of Golden Tee Golf
  - Copyright protection not strong enough
- "The exclusion of functional features from copyright protection grows out of the tension between copyright and patent laws. Functional features are generally within the domain of the patent laws."



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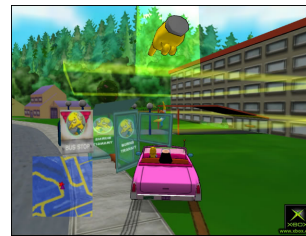


## 6. Proving a point

Don't let emotion  
make your business  
decisions.

- *Sega of America, Inc. v. Fox Interactive, et al.*

- Sega publishes Crazy Taxi, covered by USP 6,200,138 (priority to 10/30/1997)
- Fox published Simpson's Road Rage, which uses many similar game play features
- Broad claims in the '138 patent.
- Case settled, likely because of expected cost of litigation versus chance of recovery



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## 6. But is the point worth proving?

- '13



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You mean like putting the object on a pedestal?...



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## 7. Markman, you did it again...

Claim construction often (effectively) decides the case.

- *Activision v. Gibson*, CV-08-1653, C.D. Cal. (Pending)
  - Gibson's U.S. Pat. 5,990,405
  - Claim construction (aka, the Markman order):
  - A "musical instrument" must be capable of making musical sounds *independent of* the mechanism that outputs the instrument audio signal
  - Last Actions:
    - Gibson: request to reconsider claim construction (1/14/09)
    - Activision: motion for summary judgment (12/10/08)



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## 8. KSR (Kill Slight Revisions)

Identify key innovations for patent protection.

- *KSR v. Teleflex*, 550 U.S. 398 (2007)
  - Combination of known elements for intended purposes is obvious – no explicit or implicit motivation to combine the references is needed
- *Bally v. IGT*, D. Nev., Sept. 9, 2008
  - U.S. Pat. No. 7,100,916, for mechanical wheel slot machines with segment indicator on the sides of the wheel corresponding to each segment. A controller preselects the segments, then the wheel controller stops the wheel at the correct position based on the selected wheel segments for each wheel
  - Court held that the claims of the '916 patent are obvious
- A word about *Bilski*...



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## 9. Rock on...

Patents = market share.

- Guitar Hero, Rock Band, & Rock Revolution patents, e.g.:
  - Konami (*\*Konami v. Harmonix*, Filed 7/9/08, E.D. Tex., Pending)
    - \*6,390,923: Sections on a display screen for each instrument
    - \*6,425,822: Selectable numbers of inputs
    - \*6,645,067: Percussion timing and real-time evaluation
  - Harmonix (*\*Harmonix v. Konami*, Filed 2/11/09, D.Mass., Pending)
    - 6,353,174: Networked performances
    - 6,429,863: Musical time axis over 3D display
    - 7,320,643: Guitar controller w/ 2 sets of fret buttons
    - \*7,459,624: Hammer-on/pull-off play (i.e., no fret-bar)
  - Gibson (*\*Activision v. Gibson*, Filed 3/11/08, C.D. Cal., Pending)
    - \*5,990,405: Use of actual musical instrument
      - Guitar Rising? Disney Guitar Star?



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## 10. Pending cases



- *Hillcrest v. Nintendo*
  - 8:08-cv-02188, filed 8/20/08 in D.Md.
  - U.S. Pats. 7,139,983; 7,158,118; 7,262,760; & 7,414,611
  - 3D control of multimedia content
- *ADC v. Microsoft*
  - 2:08-cv-01579, filed 10/27/08 in W.D. Wash.
  - U.S. Pats. 5,775,995; 6,193,520; 6,488,508; 6,702,585; and 6,875,021
  - Pay-for downloads (broad claims; early 1994 priority date)
- *Motiva v. Nintendo*
  - 6:08-cv-00429, filed 11/10/08 in E.D. Tex.
  - U.S. Pat. 7,292,151
  - Measurement of human movement, e.g., physical therapy (Wii Fit?)
- *Worlds.com v. NCSoft*
  - 6:08-cv-00508, filed 12/24/08 in E.D. Tex.
  - U.S. Pat. 7,181,690
  - Determining proximately located avatars in virtual world and displaying only close avatars through user client (broad claims; early 1996 priority date)



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## 10. More pending cases

The lawyers always win.

- *PPC v. Sony*
  - Cv-07-353, filed 7/26/07 in E.D. Tex.
  - U.S. Pats. 5,056,000 – parallel processing
- *Beneficial Innovators v. Blackdot, Career Builder, CNET, Digg, et al.*
  - 2-07CV-263, filed 6/20/07 in E.D. Tex.
  - U.S. Pats. 6,712,702
  - In-game advertising during network gaming
- *Fenner v. MS, Nintendo, Sony*
  - 06-cv-08, filed Jan. 2007, in E.D. Tex.
  - U.S. Pat. 6,297,751
  - Low voltage joystick port interface



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## ®®® Video game cases ©©©

- Copyright
  - *Willis v. Electronic Arts*, filed 9/29/08 in D. Nev.
    - Alleged infringement of UNLV fight song (*Win With The Rebels*) in EA Sports games
- Trademark
  - *ESS Entertainment v. Rock Star Video*, (9<sup>th</sup> Cir. 2008)
    - Grand Theft Auto's inclusion of *Pig Pen* gentlemen's club.
    - ESS owns *Play Pen* gentlemen's club in LA
    - Allowed under first amendment and lack of likely confusion by consumers
- Virtual Worlds...



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UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF NEW YORK

EROS, LLC, LINDA BACA  
d/b/a RH DESIGNS, TEASA COPPRUE  
d/b/a LE CADRÉ NETWORK,  
SHANNON GREI d/b/a NOMINE,  
KASI LEWIS d/b/a PIXEL DOLLS,  
DE DESIGNS, INC.

CIVIL ACTION NO.:  
**Conspiracy**  
TOWNES, J.  
AZRACK, J.

v.

THOMAS SIMON, a/k/a RASE KENZO,  
and JOHN DOES

JURY TRIAL DEMANDED  
**FILED**  
IN CLERK'S OFFICE  
U.S. DISTRICT COURT E.D.N.Y.

**False Designation of Origin**



Defendants.

**COMPLAINT**

EROS, LLC, LINDA BACA  
d/b/a RH DESIGNS, TEASA COPPRUE  
d/b/a Le Cadré Network, Shannon Grei d/b/a Nomine, Kasi Lewis d/b/a Pixel Dolls (collectively  
"Plaintiffs") say the following by way of Complaint:

**Unfair Competition**

**Copyright Infringement**

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UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF NEW YORK

EROS, LLC, LINDA BACA  
d/b/a RH DESIGNS, TEASA COPPRUE  
d/b/a LE CADRÉ NETWORK,  
SHANNON GREI d/b/a NOMINE  
KASI LEWIS d/b/a PIXEL DOLLS,  
and DE DESIGNS, INC.,

CIVIL ACTION NO.: 07-CV-4447

**Settled:**

**\$525**

Plaintiffs,



v. JURY TRIAL DEMANDED

THOMAS SIMON, a/k/a RASE KENZO,  
and JOHN DOES 1-10,

Defendants.

**December 3, 2007**

**JUDGMENT BY CONSENT  
AS TO DEFENDANT THOMAS SIMON**

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UNITED STATES DISTRICT COURT  
MIDDLE DISTRICT OF FLORIDA  
TAMPA DIVISION

EROS, LLC,  
Plaintiff,

**Settled:**



**“Oops, I won’t do it again”**

-vs- Case No. 05-07-cv-1851-E-24TGW

JOHN DOE, a/k/a VOLKOV CATTENEO, a/k/a  
AARON LONG, ROBERT L. LATHERWOOD  
and JOHN 1-10 DOES,  
Defendants.



/

Default Judgment Nov. 16, 2007; Settled March 14, 2008

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Do contracts clear things up?  
Or make things clear as mud?

- Terms of Service (ToS) can supersede many forms of IP protection otherwise available
- Enforceability issues
  - Second Life ToS were held once to be an adhesion contract (Bragg v. Linden Labs), and the arbitration clause was unenforceable
  - <http://secondlife.reuters.com/stories/2007/10/04/linden-lab-settles-bragg-lawsuit/>
  - Inherent requirement of reasonableness?

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## SL Terms of Service

3.2 ... you will retain any and all applicable copyright and other intellectual property rights with respect to any Content you create ...

...you automatically grant ... a non-exclusive, worldwide, fully paid-up, transferable, irrevocable, royalty-free and perpetual License, under any and all patent rights ...

... you will not make any claims against Linden Lab or against other users of the Service based on any allegations that any activities by either of the foregoing within the Service infringe your (or anyone else's) patent rights...



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## Litigation costs

Litigation is expensive; evaluate risk appropriately

- <\$1M at risk
  - Through end of discovery: \$461,000
  - Through trial: \$767,000
- \$1M-\$25M at risk
  - Through end of discovery: \$1,589,000
  - Through trial: \$2,645,000
- >\$25M at risk
  - Through end of discovery: \$3,340,000
  - Through trial: \$5,499,000
- Only hire as large of a firm as you need. Costs go up as firm size goes up.
- Remember, the only guaranteed winners in litigation are the defense attorneys
- Settle early and often – litigation is a last resort

Source: AIPLA Report of the Economic Survey 2007 (The 2009 report was not available at the time of submission to GDC organizers)



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# Video game IP resources

- [www.PatentArcade.com](http://www.PatentArcade.com)



- Online resource for video game intellectual property news and case updates



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## Until next time...

- Any questions?
- And if you just need a distraction...

<http://flightsimx.archive.amnesia.com.au/>



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inSL: Aviator Kidd



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# Top 10 Video Game Patents

By Ross Dannenberg & Steve Chang<sup>1</sup>

## Introduction

When the editors at Gamasutra asked us to prepare a list of the top 10 video game patents, we initially thought “hey, no problem, that will be easy.” As we’ve dug into this in a little more detail, we realized that what we signed up for was no easy task, because there are quite a few issues that make it difficult to simply whip up a list of the top 10 video game patents. First, what makes a patent a video game patent? Is it a video game patent if it describes video game play methods? What about hardware? Audio/video processing techniques? There are endless patents that may be utilized in some form or another when playing a video game. Second, what determines whether a patent is a good patent or a bad patent? Its coolness factor? Financial worth? Something else entirely? Third, how do you compare patents that cover completely disparate technologies from completely different times? How do you compare the original Pong patent with a patent for giving Kudos based on driving style? The *coup de grace* then is this: how do you rank patents that each derive merit from a different one of these metrics? The fact of the matter is you can’t, because there are many ways in which patents can be valuable. Some patents are widely licensed and bring lots of licensing revenue to its owners; other patents introduce a key technological advance that becomes an industry standard; and other patents possess a certain *je ne sais quoi*, the “IT” factor of a really neat idea.

Needless to say, given these complexities, this list is fairly subjective, and we would be blown away if no one disagreed with us. Nonetheless, here goes...

## The Metrics

We use very scientific methods in preparing this list: we sat around and asked each other “what do you think?” Actually, we used a mix of the following in determining which patents make the list:

- Relativity to Video Games: We would not consider a patent on a high-speed DVD drive to be a video game patent, even though millions of video games load from one. On the other hand, we consider a patent describing a video game play method to be principally a video game patent.
- Financial Value: A good patent has financial value, period. That financial value can be realized in various forms, including licensing fees (voluntary or court-mandated), market share, and market leverage on secondary

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<sup>1</sup> Ross & Steve are partners at the law firm Banner & Witcoff, Ltd. in Washington, DC. The views expressed in this article are that of the authors personally, and should not be attributed to Banner & Witcoff or any of its clients. Nothing in this article should be construed as legal advice, and no attorney-client relationship exists between the authors and any reader. For more information, you may contact Ross Dannenberg at [rdannenberg@bannerwitcoff.com](mailto:rdannenberg@bannerwitcoff.com) (202-824-3153) or Steve Chang at [schang@bannerwitcoff.com](mailto:schang@bannerwitcoff.com) (202-824-3154).



products (e.g., support products or accessories not necessarily covered by the patent), among other ways.

- Technological Importance: regardless of whether a patent issued in 1980 or 2007, each patent has an effect on the video game industry. Many, ok most, patents affect the industry exactly this much: nada. But a fundamental patent turns heads and the industry takes heed of the idea, incorporates the idea in video games, and develops new and ever better ideas and technologies on that foundation. When in doubt, and all other things being equal, we consider any patent that has been litigated (or licensed) to be more important than one that has not.
- The It-Factor: Sometimes an idea has that *je ne sais quoi*, or “it factor,” that makes it stand out in the crowd. While many value a patent only by its financial worth or market leverage, sometimes a patent stands out on its own, regardless of what the owner does with it. When reading a patent that has the It-Factor, as opposed to thinking “duh! I could have done that,” you think to yourself “why didn’t I think of that?”

### *The Patents*

Politics aside, it’s difficult to select the top 10 video game patents when multiple patents have accomplished similar stature. Thus, we provide our top 10 types of video game patents, with examples for each. And by “type,” we refer to what the patent (or its owner) has accomplished in the industry based on the invention described in the patent (i.e., we gave preference to patents that were actually enforced at some time or another). Also, we were asked to present the top ten video game patents—no one ever said we had to put them in order. So we didn’t, except for the top video game patent. Now, without further ado:

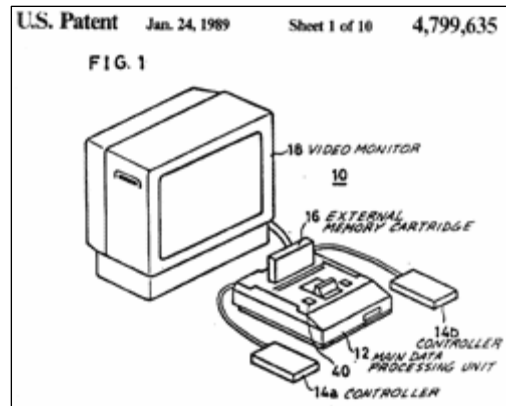
#### 10. Ones That Save the Day

A patent’s primary purpose is to preserve an inventor’s space; to let the inventor keep his/her invention, and to keep others from stealing it. So any patent that fulfills this purpose deserves to be listed. Just ask Nintendo. In the early 1990’s, Nintendo was riding a wave of popularity with its NES™ console (a.k.a. the “Famicom,” for family computer, when it was originally released in Japan). To keep control over its business, Nintendo built a security program into its console. Nintendo’s security program (referred to as the 10NES software) was a combination of “lock” software embedded into a chip in the NES gaming console, and “key” software in each Nintendo game cartridge. The lock and key send synchronized encoded data streams back and forth which unlock the console when an authorized game is inserted. When an unauthorized game is inserted, the console remains locked, thus preventing game manufacturers for designing NES-compatible games without receiving keys from Nintendo. Developers were upset that Nintendo was forcing them to pay money for a license to develop games for the NES console. Atari was so upset that it refused.

Instead of paying, Atari simply copied the 10NES software from records in the U.S. Copyright Office. Litigation was soon to follow.<sup>2</sup>

Irrespective of the fact that Atari lied in order to get the U.S. Copyright Office to release the records, Atari won the copyright infringement portion of the lawsuit. Nintendo, however, had the foresight to also get patent protection on its 10NES software-- U.S. Pat. No. 4,799,635.

The patent was determined to be valid, and a jury determined that Atari infringed the patent. So, rather than having to sit by and watch an unlicensed competitor make and sell unauthorized games because its copyright claims fell, Nintendo was able to rely on its patent to preserve control over the NES. The parties eventually settled the case, and Nintendo has since become a dominant player in the U.S. console market. Who knows if Nintendo could have pulled this off if it lost control over the NES?



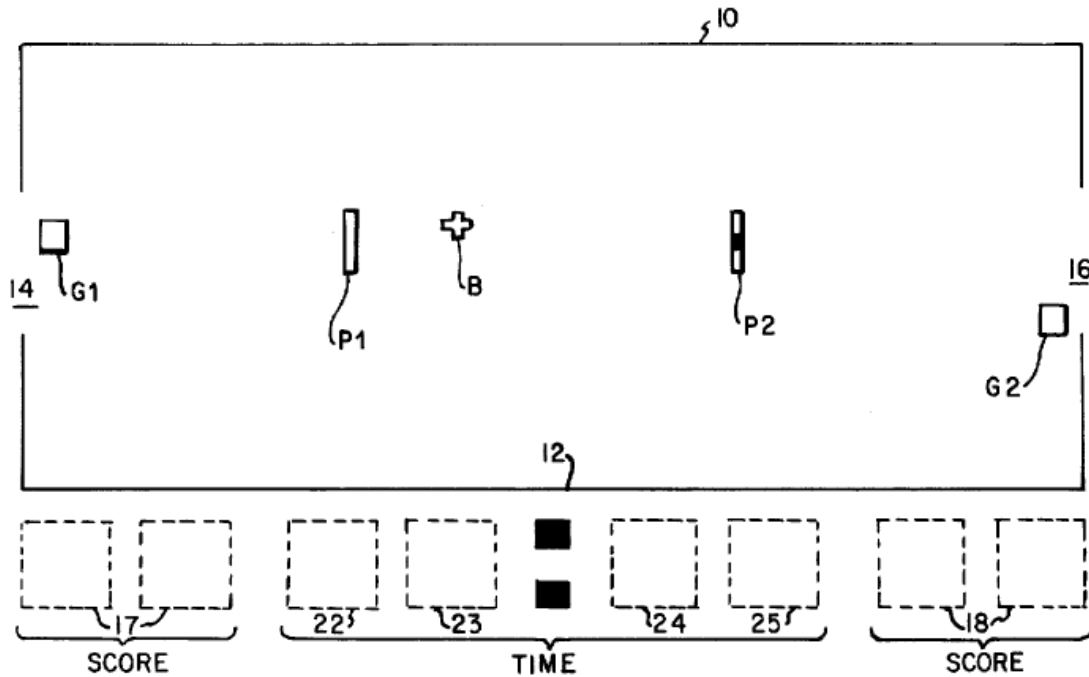
## 9. Ones That Pave the Way to the Next Generation

If the advertising is any indication, the “next generation” of console gaming is mostly defined by incredible graphics. Anyone who remembers playing games in the early console days, where a player character was represented by a simple block (remember Adventure™ on the Atari 2600™?), can’t help but be amazed by the graphics available in today’s games. The new sports games even model individual facial hairs and drops of sweat! Today’s phenomenal graphics owe a debt of gratitude to the legions of innovators and inventions that gradually evolved and improved console gaming graphics. So as a tribute, we include a console gaming graphics patent that created waves with most of the heavyweights in the early console days - Atari, Mattel, Coleco and Nintendo.

U.S. Patent No. 4,026,555, filed in 1975, describes an early television display device that used bitmapped graphics to render a variety of types of images. This was described in the patent as an improvement over prior systems, which offered limited variety and actually relied on physical overlays stuck to the television screen for some of the visuals. The following figure from the patent shows an example of what was possible without the use of overlays:

<sup>2</sup> Atari Games Corp. v. Nintendo of Am., Inc., 975 F.2d 832 (Fed. Cir. 1992).

FIG. 1A



The '555 patent's invention was commercialized by Atari, Mattel and Coleco, but Nintendo refused to take a license for its NES™. The owners of the patent, Alpex Computer Corp., sued Nintendo, and in 1994, won a judgment of \$253,641,555.00 in damages and interest for infringement of their patent. That's a chunk of change.

On appeal, however, Nintendo was successful in arguing that the patent was narrow enough that it did not cover the particular graphic technique used in the NES. Specifically, the '555 patent described a RAM-based technique that mapped the entire screen, while Nintendo's system used a shift-register approach in which individual registers handled individual portions of the screen. The appeals court looked at some statements that the '555 patent's inventors made to the Patent and Trademark Office in originally getting the patent, and concluded that the inventors had distinguished their invention over such shift register-based techniques<sup>3</sup>.

#### 8. The One That Makes a Fortune 500 Company Blink

Patents provide a "limited" monopoly to their owners, i.e., while a patent does not guarantee that the patentee itself can commercialize the invention, the patentee can stop others (i.e., infringers) from commercializing the invention, regardless of who that infringer is.<sup>4</sup> It doesn't matter whether the infringer is an individual, a small

<sup>3</sup> Alpex Computer Corp. v. Nintendo Co., 102 F.3d 1214 (Fed. Cir. 1996)

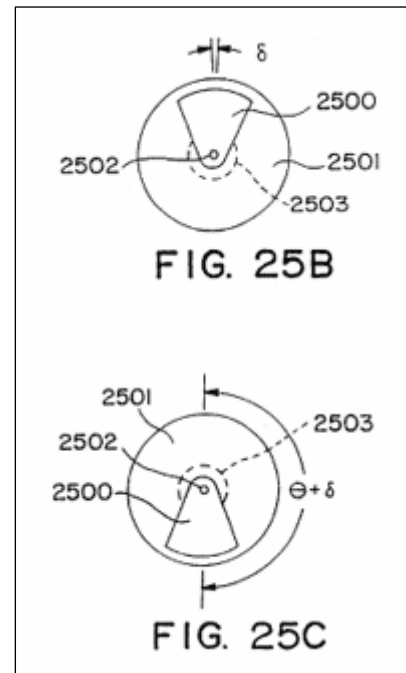
<sup>4</sup> Except the U.S. government, but that is beyond the province of this article.

business, or a Fortune 500 company with enough money to try to litigate the inventor into bankruptcy. A good patent is mightier than the largest coffers, and in true David versus Goliath fashion, Sony learned that the hard way.

Immersion Corporation owns various patents for haptic feedback technologies, including U.S. Patent 6,275,213 and U.S. Patent 6,424,333 covering vibration feedback in video game controllers. In February 2002, Immersion sued Sony and Microsoft for patent infringement of both patents because the PlayStation™ 2 and the Xbox™ both include vibration feedback in their respective controllers.<sup>5</sup> Microsoft settled with Immersion in July 2003,<sup>6</sup> and continues to include haptic (vibration) feedback in its controllers to this day.

The Goliath that is Sony instead chose to continue litigation... to no avail. In March 2005 Sony was hit with a \$90.7M judgment and a *permanent injunction* against the manufacture, use, sale, or import into the United States of the infringing Sony PlayStation™ system including PlayStation™ consoles, Dual Shock™ controllers, and the 47 games found by the jury to infringe Immersion's patents.<sup>7</sup> While Sony could begrudgingly pay the judgment, given the PlayStation's prominence in Sony's marketing and business efforts, the injunction is no laughing matter. The injunction was stayed pending appeal of the decision to the United States Federal Circuit, which hears all patent appeals. The oral arguments were heard October 3, 2006, and January 8, 2007; however, as of the date of this article, no decision has been issued.

Regardless of the final outcome of this case, Sony decided not to include vibration feedback in its controllers for the PlayStation3 due to alleged incompatibilities between force feedback and the motion sensing technology used. However, given the still pending threat of a permanent injunction from the Immersion lawsuit, and a YouTube™ video questioning the basis of Sony's statement,<sup>8</sup> the Immersion patents are proof that a good patent can alter the course of business of even the largest competitor, and have earned a spot on the list.



<sup>5</sup> <http://immr.client.shareholder.com/ReleaseDetail.cfm?ReleaseID=111788>.

<sup>6</sup> <http://immr.client.shareholder.com/ReleaseDetail.cfm?ReleaseID=114868>.

<sup>7</sup> *Immersion Corp. v. Sony Computer Entm't Am., Inc.*, 2005 U.S. Dist. LEXIS 4781.

<sup>8</sup> YouTube video demonstrates that force feedback and motion sensing technology can work together. <http://www.ps3fanboy.com/2006/06/26/the-truth-will-set-you-free-old-vibes-and-new-tech/>.

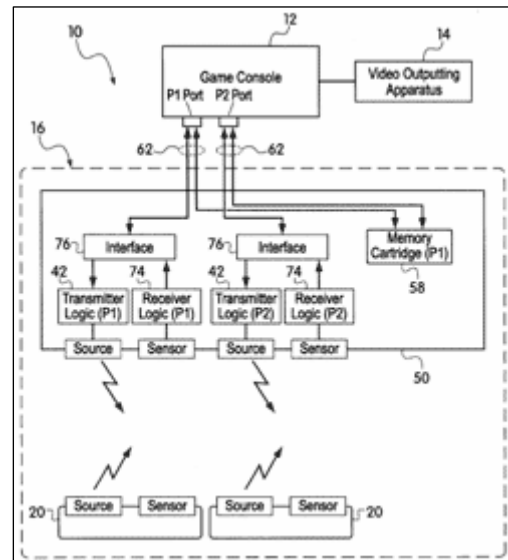
## 7. The One You Can't Live Without

When a technology comes along that consumers instantly respond to, everyone begins to take that technology for granted. If someone has a patent on that technology, or just a patent on some aspect of it, that someone is going to have an important patent. As an example, consider the wireless game controller. All three of the next-generation consoles (Xbox360™, PS3™ and Wii™) offer wireless handheld controls, and from personal experience, we swear by the convenience and flexibility that the wireless control offers.

U.S. Patent no. 6,280,327 is entitled “Wireless Game Control Units,” and has recently been in suit between its owner, Freedom Wave LLC, and Mad Catz Inc. The patent deals with two features: 1) a sleep function to turn off a game controller after going unused for an amount of time; and 2) an “auto” function that sends game input signals at a continuous pace. According to the patent, prior art game controls would have their sleep function interrupted by the automatic signals from the “auto” mode, so if users stopped playing while the “auto” function was turned on, the controller’s sleep function would never kick in (it kept sending the signals, so it thought it was constantly in use). The patent claims a system that separates the sleep function from the “auto” function, so that the controller can go to sleep even if the “auto” function was turned on.

Another Freedom Wave patent, U.S. Patent No. 6,878,066, is related to the ‘327 patent described above, and also relates to “Wireless Game Control Units.” This one, however, deals with an adapter that can plug into a console’s controller port to allow that port to work with a wireless controller.

Freedom Wave asserted both of these patents against controller maker Mad Catz Inc. in 2005<sup>9</sup>. That case was dismissed in early 2006 by agreement of the parties, but the parties have continued their dispute in a new suit filed in late 2006<sup>10</sup>.



## 6. The One That Never Was

Patents provide strong protections that are not provided by any other type of intellectual property. Unlike copyrights, which protects actual expression, or trademarks, which protect brand recognition and business reputation, patents protect ideas. There is no substitute for the rights conferred by a patent, and there is

<sup>9</sup> Freedom Wave LLC v. Mad Catz Inc. et al., CV 2:05-cv-02954 (C.D. Cal. 2005)

<sup>10</sup> Freedom Wave LLC v. Mad Catz Inc. et al., CV 2:06-cv-07209 (C.D. Cal. filed Nov. 9, 2006)

nothing worse than realizing a day late that you did not seek the patent you should have.

In what is now literally a textbook case defining the scope of copyright protection with respect to reverse engineering, Sega Enterprises sued Accolade in the early 1990's for reverse engineering Sega's Genesis™ console.<sup>11</sup> Instead of taking a license from Sega to develop games for the Genesis console (because the license would have required that Sega be the manufacturer of all Accolade games), Accolade reverse engineered the console in order to discover the requirements for a game to be compatible with the Genesis console. After determining the necessary compatibility requirements, Accolade created a compatibility manual for its developers, and began selling games for the Genesis console including "Ishido", "Star Control", "Hardball!", "Onslaught", "Turrican", and "Mike Ditka Power Football." Sega Sued.



Sega attempted to rely on trademarks and copyrights to provide protections that only patents can provide. The court saw through Sega's arguments, stating that "[i]n order to enjoy a lawful monopoly over the idea or functional principle underlying a work, the creator of the work must satisfy the more stringent standards imposed by the patent laws....Sega does not hold a patent on the Genesis console," and "[a] trademark is misused if it serves to limit competition in the manufacture and sales of a product. That is the special province of the limited monopolies provided pursuant to the patent laws." Ruling in Accolade's favor, the court laid the foundation for reverse engineering as a fair use of a copyright—where reverse engineering is the only way to gain access to the ideas and

functional elements embodied in a copyrighted computer program and where there is a legitimate reason for seeking such access, reverse engineering is a fair use of the copyrighted work.

Reverse engineering would not have been a valid defense had Sega had a patent, and if Sega had a patent, it might have even made this list.

### 5. The One That Gets Blatantly Copied

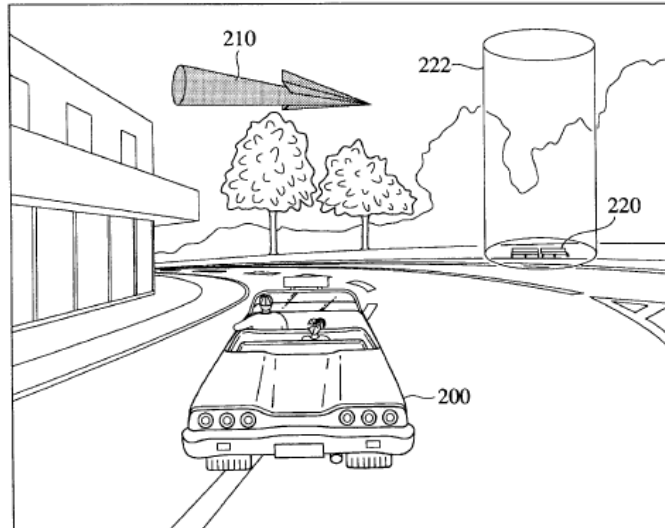
Patents are all about protecting ideas, and whenever there's a dispute about patents, there's a dispute about whether someone is unlawfully using someone else's idea (or invention). Every once in a while, the similarities between the patent and the

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<sup>11</sup> Sega Enterprises Ltd. v. Accolade Inc., 977 F2d 1510 (9th Cir. 1992).

accused infringer's product are striking. U.S. Patent No. 6,200,138 appears to have encountered just such a situation, and for that reason it's showing up on our list. The '138 patent deals with a video game concept in which the player drives a car around a map, and where a target destination is highlighted for the user. The following figure from the patent shows how an arrow can be used to point the way:

FIG. 14



Sega's patent covered concepts it used in its hit game, Crazy Taxi™:





When Fox Entertainment and Electronic Arts released a game having a similar concept, Sega was not happy. Fox/EA's Simpsons Road Rage™ game seemed to use the same concept:



Sega sued EA/Fox in 2003, and the case was settled not long after.

#### 4. The One That Goes Platinum

A good patent should further business objectives, whatever they may be. Patents can serve multiple purposes, including ensuring market share of a company's sales, helping to obtain venture capital, and marketing, to name a few. While a patent might not guarantee that a game goes platinum, it does help stave off competitors from creating a game that has similar features,

which could chip away at your own sales. Koei Company makes the Dynasty Warriors™ franchise of games, which have sold millions of copies. Koei sold 723,127 copies of Dynasty Warriors™ 4 in just its first four days of release!<sup>12</sup> Koei also is the owner of U.S. Patent No. 6,729,954, entitled “Battle method with attack power based on character group density,” which protects the group battle methodology used in the Dynasty Warrior™ series of games. Coincidence? We think not, and Koei's



<sup>12</sup> [http://ps2.gamezone.com/news/03\\_07\\_03\\_08\\_53PM.htm](http://ps2.gamezone.com/news/03_07_03_08_53PM.htm).



patent serves as an example of the synergies gained by having both a platinum selling franchise and the patent to go with it!

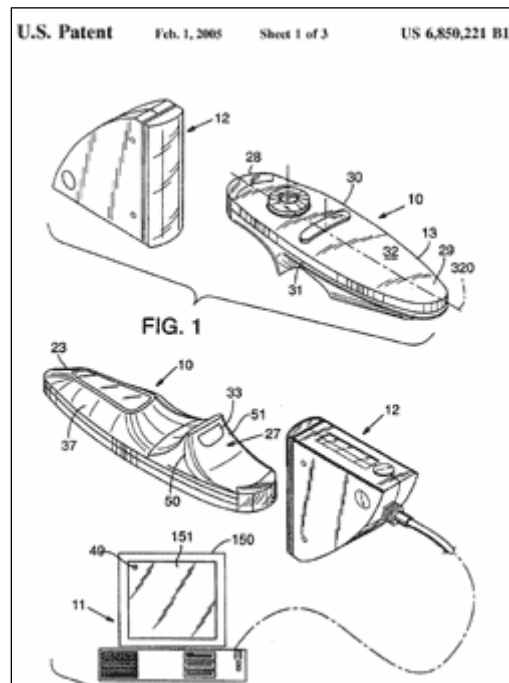
### 3. The Patent Portfolio

The third entry on our list is not really a single patent, but the general notion of actively patenting your concepts as they come along. In many cases, it is difficult to predict which innovation will grab hold of the spotlight, and which features will end up getting copied. Accordingly, the companies that take a broad approach to patenting their video games will stand the greater chance at truly protecting their territory, and their portfolios stand as effective as any single patent that actually gets litigated.

### 2. The One That Covers the Next Great Leap

Every so often, there is a sea change in an industry—a new feature or development that takes the industry by storm, creates media buzz, and gets the consuming public excited again. Nintendo managed to do just that during the 2006 holiday season with the introduction of the Nintendo Wii™ and its motion sensing controller technology.<sup>13</sup> Nintendo sold almost 2 million units of the Wii™ by the end of 2006.<sup>14</sup> Given the hype, and the sales, it was only a matter of time before patent owners started looking for their due, which is why, given the proclivity of patent trolls to follow the money, software patents often get bad press. However, at the end of the day someone is commercializing innovative technology that may be covered by one or more patents belonging to others. And patent litigation is often the only way to sort it out.

Interlink Electronics has fired the first shot by suing Nintendo for infringement of U.S. Patent No. 6,850,221, which allegedly covers the motion sensing technology in Nintendo's Wiimote. Early commentary on the lawsuit questions its merits,<sup>15</sup> but given the result in the Immersion v. Sony lawsuit (see #2, above), and the fact that litigation is inherently speculative, Nintendo is certainly taking it seriously. In addition, Interlink is not the only company that is trying to stake its claim in this new technology; Sony has patents pending on motion sensing controller technology,<sup>16</sup> and it's a safe bet that Nintendo does as well. Given that multiple parties are



<sup>13</sup> [http://www.timesonline.co.uk/article/0,,2095-2517214\\_1,00.html](http://www.timesonline.co.uk/article/0,,2095-2517214_1,00.html)

<sup>14</sup> <http://www.cubed3.com/news/6530/1/Nintendo>

<sup>15</sup> <http://www.engadget.com/2006/12/08/nintendo-finally-hit-with-wiimote-lawsuit/>

<sup>16</sup> See, e.g., U.S. Appl. Publ. No. 2006/0267935 ("Remote Input Device") and U.S. Appl. Publ. No. 2006/0282873 ("Hand Held Controller Having Detectable Elements For Tracking Purposes").

all trying to stake claims to different aspects of the same technology, it will take some time to see where the chips fall. If the same company doesn't end up with both the dominant technology as well as the patent that covers that technology, this could be a long and expensive chip-falling process. Regardless, whoever ends up with the dominant patent stands to make lots of licensing revenue, given the widespread excitement over this new technology, and that patent deserves to be on this list.

### 1. The One That BIRTHED the Industry - Pong Patent

As if any other patent could hold the number one spot on this list. Back in 1969, a man named William Rusch filed a patent application for a "Television Gaming Apparatus" that used a paddle-type control to move onscreen objects that collided with other onscreen objects. The resulting patent, RE28,507<sup>17</sup>, was eventually licensed to Magnavox, who then used that technology to release the first video game console: the Magnavox Odyssey™.<sup>18</sup>

When a rival upstart company, Atari, released their Atari 2600™ home console that also sported paddle controls, Magnavox took notice and Atari took a license for its "PONG" game. In the decade after that, Magnavox successfully asserted its patent in multiple lawsuits against Seeburg, Bally-Midway, Mattel, Activision and Nintendo, demonstrating without a doubt that a strong patent is the perfect way to protect your intellectual territory. The Odyssey system and PONG game launched what has since become a multi-billion dollar industry, and the '507 patent rightfully deserves the title of the Number One Video Game Patent.



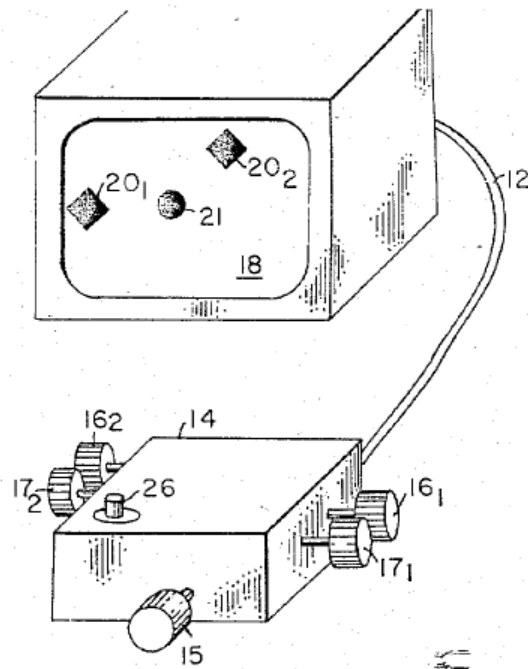
So video games have been around for about 30 years, or about two patent lifetimes. In that span, video games have gone from this:

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<sup>17</sup> The "RE" indicates that this is a "reissue" patent. Reissue is a process through which a patent owner can correct an error that occurred without deceptive intent. See 35 U.S.C. § 251. For example, the claims of the patent may be too narrow and, therefore, fail to provide the patentee with all of the protection to which he or she may be entitled. Alternatively, the patentee may determine that the claims are too broad and would otherwise be invalid. The patentee can narrow such claims through the reissue process to preserve validity. The original patent that RE28,507 is based on is 3,659,284, which was surrendered by the patentee when the reissue process was initiated.

<sup>18</sup> Photo courtesy of David Winter, *Pong Story*

FIG. 1



(an image from the PONG '507 patent, users had to tape a plastic overlay to their televisions to add the lines for the table net and service lines), to this:



(image of Rockstar Presents Table Tennis™). It's certainly a great time to be a gamer, and we are eagerly looking forward to seeing what the top patents will be in another 10, 20, or 30 years. See you then!

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# PATENT ARCADE

IN THE BUSINESS OF VIDEO GAMES, INTELLECTUAL PROPERTY PROTECTION IS CRITICAL TO SUCCESS, AND PATENTS, COPYRIGHTS, AND TRADEMARKS ARE THE BRICKS WITH WHICH YOUR IP PORTFOLIO IS BUILT. THE PATENT ARCADE IS THE WEB'S PRIMARY RESOURCE FOR VIDEO GAME IP LAW, NEWS, CASES, AND COMMENTARY. EDITOR-IN-CHIEF: ROSS DANNENBERG, ESQ.

**Ross Dannenberg will be speaking March 27, 2009, at Noon at GDC '09 at San Francisco's Moscone Center. Topic: Adventures in video game litigation: patent cases past and present.**



WEDNESDAY, MARCH 04, 2009

## Ross Dannenberg Speaking at GDC 2009

I will be speaking at GDC 2009 in San Francisco, California. The event is at the Moscone Center, and my session is scheduled for Friday at NOON! Yes, I drew the Friday lunch slot, so I promise to keep it entertaining and lively, and there will be some very useful handout materials.

Session: **Video Game Patents – Cases & Examples: Adventures in Video Game Litigation**

**Date/Time:** Friday (March 27, 2009) 12:00pm — 1:00pm

**Location (room):** Room 2002, West Hall

**Track:** Business and Management

**Format:** *60-minute* Lecture

**Experience Level:** All

### Session Description

The successes and failures by companies to properly protect their innovations and software has led to some interesting results in the courts. Copyright protection, while important, is not always enough for protecting computer software and video games.

This presentation will explore patent lawsuits (both historical and more recent) that yield important lessons for companies desirous of using patents to protect their video game intellectual property, and to ensure that the company continues to obtain strong and enforceable software patents.

### Takeaway

Regardless of the size of your company, you can always improve the IP protection of your assets, from game artwork, to game play methods, to hardware, and including the software itself. Learn from other companies' pitfalls and mistakes, and see what makes a patent stand up in court, versus why patent lawsuits are lost in the video game industry.

Hope to see you there!



1977 WL 22731 (N.D.Ill.), 201 U.S.P.Q. 25

The Magnavox Company, et al.  
v.  
Chicago Dynamic Industries, et al.  
District Court, N.D. Illinois, E. Div.  
Nos. 74 C 1030 and 74 C 2510  
Decided Jan. 10, 1977

#### United States Patents Quarterly Headnotes

##### PATENTS

[1] Patentability -- Evidence of -- Delay and failure of others to produce invention (§ 51.459)

Patentability -- Evidence of -- State of art (§ 51.467)

Fact that others who had capability and incentive to develop novel feature did not do so, and, on eve of inventions, were traveling in very different direction is very persuasive on question of obviousness, and no other kind of circumstance would be more persuasive.

##### PATENTS

[2] Patentability -- Evidence of -- In general (§ 51.451)

Patentability -- Evidence of -- State of art (§ 51.467)

Direct testimony of people who say that something either was or was not obvious to them is not nearly as eloquent as circumstantial evidence of what persons knowledgeable in field either did do or did not do.

##### PATENTS

[3] Patentability -- Evidence of -- Infringement (§ 51.463)

Fact that invention was imitated by others is factor to be taken into consideration on question of obviousness.

##### PATENTS

[4] Patentability -- Evidence of -- Commercial success -- In general (§ 51.4551)

Patentability -- Evidence of -- Commercial success -- Causes (§ 51.4555)

Fact that items embodying invention's novel concept have had commercial success while other items have not, is evidence of nonobviousness; one looks not for sole causes, but substantial causal relationships.

##### PATENTS

[5] Defenses -- Fraud (§ 30.05)

Question of whether there is any evidence of patent owner's intent to conceal prior art patent that should have been cited during reissue application's prosecution and whether there was any motivation for it to conceal is looked to in analyzing issue of whether there was fraud on Patent Office.

##### PATENTS

[6] Pleading and practice in courts -- Burden of proof -- Validity (§ 53.138)

Presumption from patent grant -- Patent Office consideration of prior art (§ 55.5)

Party alleging invalidity, has burden of proof on validity issue and burden of showing that patent examiner did not know about prior art, which goes to validity issue.

##### PATENTS

[7] Defenses -- Fraud (§ 30.05)

Presumption from patent grant -- Patent Office consideration of prior art (§ 55.5)

Fact that prior art patent of which examiner may not have been aware would not have changed examiner's decision is important in validity issue.

##### PATENTS

[8] Presumption from patent grant -- In general (§ 55.1)

Presumption from patent grant -- Patent Office consideration of prior art (§ 55.5)

There is presumption in favor of patent validity where there has been no failure to comply with those

requirements that give rise to presumption.

#### PATENTS

[9] Infringement -- Substitution of equivalents -- In general (§ 39.751)

Analog and digital circuitry are two means, which are largely interchangeable, which are equivalent, and which are, therefore, essentially same means for achieving substantially same results in substantially same way; every electronic invention would be fair game for anyone who simply used reverse method of circuitry to achieve same result, if mere change from analog to digital circuitry were sufficient change to deprive analog patent of protection; however, they are substantially same thing and simply are different choices open to designer of particular device, and that choice is dictated by such things as economy and items of that kind.

#### PATENTS

[10] Construction of specification and claims -- Combination claims (§ 22.35)

Infringement -- Combinations -- Omission of element (§ 39.257)

Patents on television game and receiver of television signals in connection with that game should not be read in such way as necessarily to include as indispensable part of patent those features of television set that have nothing whatever to do with generation of TV game on receiver.

#### PATENTS

Particular patents -- Television Gaming

Re. 28,598, Baer, Rusch, and Harrison, Television Gaming Apparatus and Method, invalid.

Action by The Magnavox Co., and Sanders Associates, Inc., against Chicago Dynamic Industries, Seeburg Industries, Inc., The Seeburg Corporation of Delaware, Williams Electronics, Inc. and World Wide Distributors, Inc. for patent infringement. Judgment for plaintiff.

Theodore W. Anderson, James T. Williams, and Neuman, Williams, Anderson & Olson, all of Chicago, Ill., for plaintiff.

Melvin M. Goldenberg, and McDougall, Hersh & Scott, both of Chicago, Ill., for Seeburg Industries, Inc., The Seeburg Corporation of Delaware, Williams Electronics, Inc., and World Wide Distributors, Inc.

Grady, District Judge (orally).

The Court is prepared to state its findings of fact and conclusions of law. Before doing that, I would like to compliment counsel on both sides for what I regard as an exceptionally good presentation. The evidence was well marshalled and presented, I think, in about as clear a fashion as it could have been, considering the extreme complexity of the technological aspects of the case.

I am grateful to competent counsel on both sides who did an extraordinarily good job, I believe, I also think that the witnesses who testified in the case were competent, and their testimony is of considerable assistance to me.

My own view as to what art is involved here is that we are dealing with the art of playing games on cathode ray tubes by means of electronic circuitry. The state of that art immediately prior to the '480 invention, I think, was rather primitive. Despite the very impressive accomplishments of the computer games, they were, nonetheless, unsuited for the type of small scale game playing that is involved in the patents in suit and, indeed, is involved in all the accused games as well.

While I am aware of the great advances that were made in computer technology between 1954 and, say, 1968, it is nonetheless significant that those advances did not find their way into the computer game that was demonstrated in 1967. We were still dealing with a very large computer, and this was virtually on the eve of the '480 and the '507 invention.

The '480 patent, I think, is the pioneer patent in this art, and I refer to the art of playing games on a small scale, with the players participating in the game in an environment such as a home or someplace where a large computer would clearly not be available.

The '507 patent is, I believe, distinguishable from the prior art in one principal respect, and it is the respect which the plaintiff has urged in this case. This invention discloses a movable hitting spot which is controlled by the player and which, by striking a hit spot, can change the direction of that hit spot. Now, that is something new, I believe, something that is not shown in the prior art; nor do I find anything in the prior art which is even strongly suggestive of the development of such a thing.

The term "distinct motion" as used in the patent I think does not mean what some of the witnesses have indicated; namely, a predictable motion. Perhaps it could have that meaning, but it seems to me that the plain meaning of it is that the motion is different from the motion that characterized the hit spot immediately prior to coincidence with the hitting spot, such as a \*27 reversed direction or any kind of different direction which is clearly imparted by the movable hitting spot. So I think that that description in the patent claims aptly describes what happens when the movable hitting spot strikes the hit spot.

This was a useful item. It was not simply a gimmick or a frill. Rather, it made possible the wide variety of games which are playable under the '507 patent and which were not playable under the '480 patent or anything previous to the '480, all of the so-called ball and paddle games, all of the bounce games, in which the player was directly involved as a participant who caused the bounce, as distinguished from simply turning a knob which set in motion a series of events over which he had no further control. All of that became possible for the first time with the disclosures in the '507 patent.

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.

[1] Turning to the question of whether this novel feature of '507 was obvious, I am impressed by the testimony that the RCA people, who are in the television business and certainly had every incentive to develop television games and who definitely had the mechanical capability to do so with their large resources and their highly developed computer and technology of other kinds, did not do so, and, on the eve of the inventions in suit, were, as plaintiff suggests, traveling in a very different direction. I think that that fact is very persuasive. I find it very persuasive on the question of obviousness. I can really think of no kind of circumstance which would be more persuasive.

[2] The direct testimony of people who say that something either was or was not obvious to them is not nearly as eloquent as the circumstantial evidence of what persons knowledgeable in the field either did do or did not do.

[3] 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. Here again Mr. Bushnell and his associates were highly sophisticated people in the electronic field, and they even had a little bit of experience in a sub-art, games and machines of that kind. 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. When he did see the Odyssey game, what he did basically was to copy it.

Further in connection with the Pong game, there is uncontradicted evidence that the defendant Williams had possession of a Pong game and discussed with plaintiff the possibility of producing such a game. Here again if the game were so obvious, it seems to me that it would not have been necessary to predicate future activity so explicitly upon producing a game like this.

[4] Furthermore, I think that the '507 patent, or at least the type of game disclosed by the '507 patent, has had considerable commercial success. While very few things are ever the sole cause of anything else, and one looks not for sole causes but for substantial causal relationships, there is no question in my mind that the thing that sold in the minds of the public was the bouncing feature of the so-called paddle and ball games. The fact that the other games not involving that concept have pretty well petered out is fairly good evidence of that.

Therefore, I find that the concept embodied in '507 has had very great commercial success. That is an added fact which, taken together with the other evidence I have mentioned, leads me to the conclusion that the invention of '507, that novel feature of which I have previously described, was not obvious at the time of this invention by plaintiffs.

[5] I also find that there was no fraud on the Patent Office. I don't know why the '480 patent was not cited in the '507 re-issue application since by the time '507 re-issue was applied for, the '480 patent had issued. It seems to me it should have been cited, but I look to the question of whether there is here any evidence of an intent on the part of the plaintiffs to conceal '480, and I find no such evidence. Moreover, I am not persuaded that there was any substantial motivation for plaintiff to conceal '480. Despite Mr. Goldenberg's thoughtful analysis of the problem, I do not believe that that series of hypotheses that you suggested is really tenable.

Moreover, it seems to me that the patent examiner did know about '480. The evidence is not clear that he actually read it, but neither is there any evidence that he didn't read it, other than the circumstantial evidence that it was not mentioned in various places in the patent where it might have been mentioned and it may have been logical to mention it. I am trying to say that \*28 this is a matter as to which I can see reasonable minds differing, this matter of whether the patent examiner was really aware of what was in '480, but I do not think that the evidence really predominates in either direction on it.

[6] Since this does go to the issue of validity, on which the defendant has the burden of proof, I find that the defendant has failed to sustain the burden of showing that the patent examiner did not know about the '480.

[7] There is another matter in that connection which I think is important. At least it is important to me. Perhaps it is not important in terms of the law, but I do not believe that had the examiner known of '480, assuming for a moment that he did not know of it, that his decision as to whether or not to allow '507 would have been any different that it was. I reached that conclusion for the same reasons I have already indicated. I do not feel that '480 anticipates '507. I do not feel that '507 is obvious in the light of '480. Therefore, it seems to me that we are dealing here with a possible failure to disclose something which, if disclosed, would not have resulted in different action by the patent examiner and, therefore, a square question of materiality is presented. I do not believe that '480 was material in the sense that it would have changed the patent examiner's mind.

In saying that, I realize that I can't read his mind. I can't be sure what he would have done had he known about '480. Yet it is my duty to do my best to determine what might have happened, and in doing that, I reached the conclusion that it would not have changed the patent examiner's mind.

[8] Turning to the question of whether there is a presumption in favor of the validity of '507, I believe there is because I do not believe that there has been a failure to comply with those requirements which give rise to the presumption. I do not believe that the prior art which was disclosed to the patent examiner is any less relevant than the prior art which was not disclosed. It seems to me that the French patent in particular discloses those things which are claimed to have been denied to the Patent Office by the failure to disclose the Hurford patent and '480 and the computer games. So I think that the presumption does apply herein.

On the other hand, I do not base my decision on the presumption. I base it on an affirmative finding that this patent is valid, and I make that finding without any assistance from the presumption and without basing my finding on the presumption. It is my view that the evidence clearly preponderates in favor of the plaintiff on the issue of the validity of Patent '507, quite aside from any effect of a presumption, and when you add the presumption onto the scale, then the finding of validity, it seems to me, becomes that much more cogent.

Now I turn to the question of the 28,598 patent. I believe that '507 anticipates the '598 patent, and if it cannot be said that it anticipates it, I think that '598 patent is obvious in the light of '507. I say this because the only novel and possibly patentable feature of '593 is the visible wall. That wall existed in an invisible form in the '507. When one desires to play additional games, it is quite obvious that the way to do it is to make the wall visible. If you want to bounce a ball off a visible fixed symbol, make the fixed symbol that you already have visible. That is the obvious way to do it, and that is what is done here.

Was it done in a manner that required any technology that did not already exist? It was not. It required a different circuit, but there is no evidence here that that circuit was novel in any sense that would give patentability to the '598. There is testimony that the visual reproduction in '507 was unsatisfactory, that the lines were not as straight as they should have been, and this was rectified in '598 by the change in the circuitry. That is an improvement on '507, but it is not, in my view, a patentable improvement. It is simply using the same type of circuitry in a more efficacious way to achieve a better result.

Therefore, I find that the 28,598 patent is invalid by reason of anticipation by '507 or, in the alternative, by reason of obviousness in the light of '507.

Returning for a moment to the question of validity of '507, I do not believe that the evidence shows an offer to license the product. I believe that what the evidence shows is some discussions about the possibility of a license, some very preliminary negotiations and discussions, certainly not amounting to an offer.

I need not reach the question of whether an offer to license would be a placing on sale because I find that there was no offer to license. I am not going to decide the question conditionally because I frankly have no knowledge of what the law is or should be on the question, and it would be simply a matter of my giving you



my guess on what the law would be on that and I see no point in doing that on the particular facts as presented here.

Now turning to the question of infringement, I believe that the defendants' games \*29 do infringe the claims of the '507 patent to the extent that they contain or use a player-controlled movable hitting symbol which, when it coincides with a hit symbol, causes a change in direction of that hit symbol. I believe that all of the defendants' games do exhibit that feature and, therefore, I hold that all of the defendants' games do infringe the '507 patent.

[9] As to the various ways in which it is claimed that the defendants' games are different from the '507 patent, it seems to me that these differences are not sufficient to take the defendants' games out of the claims of the '507 patent, read in the light of the specifications and drawings. First, the use of digital instead of analog circuitry, it seems to me, is a difference which is not material. I regard analog and digital circuitry as two means which are interchangeable largely, which are equivalent, and which are, therefore, essentially the same means for achieving substantially the same results in substantially the same way.

Both of these methods involve measurement of time, it seems to me, because time is what is involved in these games. It is expressed variously as spatial and as counting, but in each instance what the user of the circuit is really attempting to do is to put an image on the screen in a particular time relationship to some other image or to some other component of the video signal.

One of the defendants' witnesses -- I forget which one -- conceded, as I recall, that the purpose for which one programs the computer to have it count in a particular way -- or rather, the purpose for which one presets the count -- is that one wishes the count to arrive at a particular point at a particular time. If one were to say that a mere change from analog circuitry to digital circuitry were to be a sufficient change to deprive an analog patent of protection, then it seems to me that every electronic invention would be fair game for anyone who simply used the reverse method of circuitry to achieve the same result. Had the plaintiffs, for instance, chosen to use the digital method, the defendants could as easily have used the analog method and claimed immunity by reason of having done that.

I listened with great attention and with, I hope, some modicum of understanding to the testimony on both sides as to the differences and similarities between analog and digital circuitry, and I am convinced, on the basis of my understanding of it, that these are substantially the same thing. They simply are different choices open to the designer of the particular device, and that choice is dictated by such things as economy and items of that kind.

As to the omission of the front end of the television set, I wish I had known before this afternoon that that very possibility was explicitly stated in the plaintiff's patent. I am perhaps remiss in not having seen it myself before it was pointed out to me today, but all of the testimony that was taken here and all of the haranguing back and forth about whether or not the defendants' games incorporate a television receiver and what is meant by a television receiver would have been of considerably less moment to me, quite frankly, had I perhaps done my homework better than I did.

It is quite clear in the very language of these patents, and in at least one drawing in each of them, that you need not incorporate, in what is referred to in the patents as a television receiver, that part of a television set which is used for the reception of broadcast television signals, and there is nothing in the claims of the patent which excludes a television receiver without a front end, a set of the kind described in the stipulated glossary of counsel.

[10] Even if the patents did not make it clear in express terms that the front end is not an essential teaching of the patent, it seems to me that mere common sense dictates the same result. I had tentatively made up my mind, even without knowing that the patents contain these express statements, that when you are talking about a patent on a television game and a receiver of television signals in connection with that game, you should not read the patents in such a way as necessarily to include as an indispensable part of the patent those features of the television set which have nothing whatever to do with the generation of the TV game on the receiver.

Therefore, I find that the omission of the front end of the television set is immaterial.

Now, as to whether or not the influence of the direction of the ball or the hit symbol in defendants' games by the place on the paddle where the ball strikes is a material difference, it seems to me that that is simply another way of a player-controlled movable hitting symbol. It comes into coincidence with a hit symbol and

changes the direction of that hit symbol in a distinct way, and I part company with one of the defendants' witnesses, who said that that feature of the defendants' games does not meet that particular claim of plaintiff's patent because you can't predict with any precision just where the ball will go when it strikes some portion of the paddle, because I don't think tthat "distinct" means "predictable". I **\*30** think it means, as I said before, simply a motion that is different from the motion characterizing the ball immediately before the coincidence.

I believe those are the differences which have been urged as distinguishing the defendants' games from the plaintiff's patents.

If I have overlooked anything as to which I should make a finding of fact, I will ask counsel to call it to my attention, and I will make a finding on it.

I do find that the defendants' games infringe the plaintiff's '507 patent.

Now, that completes my statement of my findings of fact and conclusions of law. If counsel wish to have me enter a written set of findings, which will be more specifically tied in to the numbers and other items of evidence, exhibit numbers, and that type of thing, which have been introduced here, you may prepare it and submit it.

What is your pleasure?

Mr. Anderson: Perhaps, your Honor, it would be appropriate to read the transcript and have the opportunity to make any suggestions for supplemental findings or corrections.

That would be my suggestion.

I believe your Honor did misspeak one time and say "plaintiff" when you meant "defendant."

Mr. Goldenberg: I think that is correct.

The Court: I frequently do that. I am surprised that I did it only once.

Mr. Goldenberg: It was in connection with your discussion of fraud on the Patent Office, I believe.

The Court: We will straighten that out.

All right. I wish in a case that was as well presented at this one that there could be two winners, but I guess that is not possible.

There remain issues to be tried in this case?

Mr. Goldenberg: That is correct. A claim that the patent has been misused and is unenforceable. That was severed, and discovery was stayed in connection with that.

I think for the moment, if it could be put aside, I would want to discuss that with the client. I don't know if there is any opportunity for discussion with the plaintiff in connection with that --

Mr. Anderson: I am sure there is.

The Court: I will leave it for you gentlemen to come in within a reasonable time and at least discuss it.

What you might do is check with Mr. Martinez and have him put you on a status call, say 45 days from now, or something in that area.

Mr. Goldenberg: That is very fine, your Honor.

The Court: And we will discuss where we go from there.

Thank you.

N.D.III.

1977 WL 22731 (N.D.Ill.), 201 U.S.P.Q. 25

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Atari Games Corp. v. Nintendo of America Inc., 24 USPQ2D 1015 (Fed. Cir. 1992)

**Atari Games Corp. v. Nintendo of America Inc.**

**U.S. Court of Appeals Federal Circuit  
975 F2d 832  
24 USPQ2D 1015  
No. 91-1293**

**Decided September 10, 1992**

**Headnotes**

**JUDICIAL PRACTICE AND PROCEDURE**

**[1] Procedure -- Judicial review -- Standard of review -- Copyrights (§ 410.4607.07)**

**REMEDIES**

**Non-monetary and injunctive -- Preliminary injunctions -- Copyrights (§ 505.0707.04)**

Federal Circuit, in reviewing preliminary injunction against copyright infringement defendant, will apply law as interpreted by regional circuit; under Ninth Circuit case law, reviewing court must determine whether plaintiff has shown likelihood of success on its prima facie case of copyright infringement and likelihood that it will overcome defendant's copyright misuse defense.

**COPYRIGHTS**

**[2] Statutory classifications -- Literary works; computer programs (§ 209.03)**

Computer programs and instructions encoded on silicon chips are "literary works" entitled to copyright protection pursuant to 17 USC 102(a), although such protection may not extend to every element of work.

**[3] Elements of copyright -- Statutory elements -- Originality (§ 205.0707)**

**Protectability of computer products -- Object codes, source codes, and non-code elements (§ 225.05)**

Plaintiff's "10NES" computer program, which is designed to prevent plaintiff's home video game system from accepting unauthorized game cartridges, contains protectable expression, in that plaintiff chose arbitrary programming instructions and arranged them in unique sequence to create purely arbitrary data stream that serves as "key" to unlock video game system, although idea of generating data stream to unlock console is itself unprotectable; at minimum, plaintiff may protect under copyright unique and creative arrangement of instructions in "10NES" program.

**[4] Notice, deposit, and registration -- Deposit (§ 207.05)**

**Rights in copyright; infringement -- Right to reproduction -- Access, copying, and substantial similarity -- In general (§ 213.0503.01)**

**Protectability of computer products -- Infringement (§ 225.07)**

Federal district court did not err in determining that copyright infringement plaintiff is likely to show successfully that defendant infringed its copyright in its "10NES" computer program, which is designed to prevent plaintiff's home video game system from accepting unauthorized game cartridges, by obtaining and copying source code from Copyright Office, since reproduction of articles deposited with Copyright Office is permissible only if copyright owner grants permission, court orders reproduction, or attorney requests copy in connection with "actual or prospective" litigation, and since defendant, who was plaintiff's licensee at time its attorney requested plaintiff's program, had no reason to fear copyright infringement suit from plaintiff.

**[5] Rights in copyright; infringement -- Fair use -- In general (§ 213.1501)**

**Protectability of computer products -- Object codes, source codes, and non-code elements (§ 225.05)**

"Reverse engineering" of computer program's object code, in order to discern program's unprotectable ideas, constitutes fair use, but any reproductions of program must not exceed what is necessary to understand its unprotected elements, and fair use exception can be invoked only by individuals who possess authorized copy of work; thus, any copying of plaintiff's computer program by defendant which possessed unauthorized copy of program does not qualify as fair use.

**[6] Rights in copyright; infringement -- Right to reproduction -- Access, copying, and substantial similarity -- Works similar (§ 213.0503.03)**

Federal district court, in considering whether defendant's "Rabbit" computer program is substantially similar to plaintiff's "10NES" program, correctly considered expert testimony recounting striking similarities between programs; court's finding that defendant's program contained instructions equivalent to those originally contained in plaintiff's program but subsequently deleted by plaintiff as extraneous and unnecessary strongly suggests finding of substantial similarity.

**[7] Infringement pleading and practice -- Defenses -- Fraud or unclean hands (§ 217.0603)**

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Defense of copyright misuse, if recognized under appropriate factual setting, nevertheless remains solely equitable doctrine, and thus cannot be invoked by defendant which was found by federal district court to have lied to Copyright Office in order to obtain plaintiff's copyrighted computer program.

### Case History and Disposition

On appeal from the U.S. District Court for the Northern District of California, Smith, J.; 18 USPQ2d 1935.

Action by Atari Games Corp. and Tengen Inc. against Nintendo of America Inc. and Nintendo Co. Ltd. for unfair competition, Sherman Act violations, and patent infringement, consolidated with action filed by Nintendo against Atari for unfair competition, patent infringement, copyright infringement, and trade secret violations. From federal district court order preliminarily enjoining Atari from infringing Nintendo's copyrighted computer program, Atari appeals. Affirmed.

### Attorneys:

M. Laurence Popofsky, of Heller, Ehrman, White & McAuliffe, San Francisco, Calif. (Robert W. Venning, Peter A. Wald, Kirk G. Werner, Robert B. Hawk, Michael K. Plimack, and Dale A. Rice, San Francisco; James B. Bear, of Knobbe, Martens, Olson & Bear, Newport Beach, Calif.; G. Gervaise Davis, II, of Schroeder, Davis & Orless, Monterey, Calif., with him on brief), for appellants.

Thomas G. Gallatin, Jr., of Mudge, Rose, Guthrie, Alexander & Ferdon, New York, N.Y. (John J. Kirby, Jr., New York; Larry S. Nixon, of Nixon & Vanderhye, Arlington, Va., with him on brief), for defendants-appellees.

### Judge:

Before Smith, senior circuit judge, and Clevenger and Rader, circuit judges.

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## Opinion Text

### Opinion By:

Rader, J.

Nintendo of America Inc., and Nintendo Co., Ltd. sell the Nintendo Entertainment System (NES). Two of Nintendo's competitors, Atari Games Corporation and its wholly-owned

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subsidiary, Tengen, Inc., sued Nintendo for, among other things, unfair competition, Sherman Act violations, and patent infringement. Nintendo sued Atari for, among other things, unfair competition, patent infringement, copyright infringement, and trade secret violations. The United States District Court for the Northern District of California consolidated the two cases and preliminarily enjoined Atari from exploiting Nintendo's copyrighted computer program. Because Nintendo has shown a likelihood of success on its copyright infringement claims, this court affirms.

### BACKGROUND

Nintendo's home video game system -- the NES -- includes a monitor, console, and controls. The console is a base unit into which a user inserts game cartridges. These cartridges contain the various game programs for the NES. As dictated by the program on the cartridge, the console controls an image on a video monitor, often a television set. In response to this video display, the user interacts with the system by manipulating the controls. Thus, by operating the controls in response to the video image, an individual plays the game on the cartridge in the NES console.

For instance, the game program may control a maze or set of obstacles on the video display. The user then manipulates the controls to guide an object through the maze or set of obstacles. The game program then awards the user points for proficiently passing through the maze or obstacles.

Nintendo designed a program -- the 10NES -- to prevent the NES from accepting unauthorized game cartridges. Both the NES console and authorized game cartridges contain microprocessors or chips programed with the 10NES. The console contains a "master chip" or "lock." Authorized game cartridges contain a "slave chip" or "key." When a user inserts an authorized cartridge into a console, the slave chip in effect unlocks the console; the console detects a coded message and accepts the game cartridge. When a user inserts an unauthorized cartridge, the console detects no unlocking message and refuses to operate the cartridge. Nintendo's 10NES program thus controls access to the NES.

Atari first attempted to analyze and replicate the NES security system in 1986. Atari could not break the 10NES program code by monitoring the communication between the master and slave chips. Atari next tried to break the code by analyzing the chips themselves. Atari analysts chemically peeled layers from the NES chips to allow microscopic examination of the object code. <sup>1</sup>Nonetheless, Atari still could not decipher the code sufficiently to replicate the NES security system.

In December 1987, Atari became a Nintendo licensee. Atari paid Nintendo to gain

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access to the NES for its video games. The license terms, however, strictly controlled Atari's access to Nintendo's technology, including the 10NES program. Under the license, Nintendo would take Atari's games, place them in cartridges containing the 10NES program, and resell them to Atari. Atari could then market the games to NES owners. Nintendo limited all licensees, including Atari, to five new NES games per year. The Nintendo license also prohibited Atari from licencing NES games to other home video game systems for two

years from Atari's first sale of the game.

In early 1988, Atari's attorney applied to the Copyright Office for a reproduction of the 10NES program. The application stated that Atari was a defendant in an infringement action and needed a copy of the program for that litigation. Atari falsely alleged that it was a present defendant in a case in the Northern District of California. Atari assured the "Library of Congress that the requested copy [would] be used only in connection with the specified litigation." In fact, no suit existed between the parties until December 1988, when Atari sued Nintendo for antitrust violations and unfair competition. Nintendo filed no infringement action against Atari until November 1989.

After obtaining the 10NES source code from the Copyright Office, Atari again tried to read the object code from peeled chips. Through microscopic examination, Atari's analysts transcribed the 10NES object code into a handwritten representation of zeros and ones. Atari used the information from the Copyright Office to correct errors in this transcription. The Copyright Office copy facilitated Atari's replication of the 10NES object code.

After deciphering the 10NES program, Atari developed its own program -- the Rabbit program -- to unlock the NES. Atari's Rabbit program generates signals indistinguishable from the 10NES program. The Rabbit uses a different microprocessor. The Rabbit chip, for instance, operates faster. Thus, to generate signals recognizable by the 10NES master chip, the Rabbit program must include pauses. Atari also programmed the Rabbit in a different language. Because Atari chose a different microprocessor and programming language, the line-by-line instructions of the 10NES and Rabbit programs vary. Nonetheless, as the district court found, the Rabbit program generates signals functionally indistinguishable from the 10NES program. The Rabbit gave Atari access to NES owners without Nintendo's strict license conditions.

Nintendo asked the district court to enjoin Atari's alleged infringement of its 10NES copyright. Atari sought in a separate motion to enjoin Nintendo's alleged antitrust violations and alleged misuse of its property rights. Nintendo prevailed on both motions. Atari appealed both rulings but subsequently moved to dismiss its appeal from the denial of its motion for a preliminary injunction. This court granted that motion. Atari asserts copyright misuse as a defense to copyright infringement.

### **ANALYSIS**

[1] Because this action includes patent infringement claims, this court has jurisdiction over this appeal. 28 U.S.C. Sections 1292, 1295, 1338 (1988). To resolve issues of copyright law, this court applies the law as interpreted by the regional circuits, in this case, the United States Court of Appeals for the Ninth Circuit. *Atari Games v. Nintendo of Am.*, 897 F.2d 1572, 1575 [14 USPQ2d 1034] (Fed.Cir. 1990); *Cicena Ltd. v. Columbia Telecommunications Group*, 900 F.2d 1546 [14 USPQ2d 1401] (Fed.Cir. 1990).

The Ninth Circuit sustains preliminary injunctions if the movant shows "either a likelihood of success on the merits and the possibility of irreparable injury, or that serious questions going to the merits were raised and the balance of hardships tips sharply in its favor." *Johnson Controls v. Phoenix Control Sys.*, 886 F.2d 1173, 1174 [12 USPQ2d 1566] (9th



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Cir. 1989); *accord Ocean Garden v. Marktrade Co.*, 953 F.2d 500, 506 [ 21 USPQ2d 1493 ] (9th Cir. 1991). In a claim for copyright infringement, "a showing of a reasonable likelihood of success on the merits raises a presumption of irreparable harm." *Johnson Controls*, 886 F.2d at 1174.

The Ninth Circuit vacates a preliminary injunction "only if the district court abused its discretion, or based its decision on an erroneous legal standard or clearly erroneous findings of fact." *Id.*; *accord Ocean Garden*, 953 F.2d at 502; *Associated Gen. Contractors of Cal. v. Coalition for Economic Equity*, 950 F.2d 1401, 1405 (9th Cir. 1991), *cert. denied*, 112 S.Ct. 1670 (1992). The Ninth Circuit reviews "de novo the correctness of the legal standards employed by the district court in evaluating the plaintiff's likelihood of success on the merits." *Associated Gen. Contractors*, 950 F.2d at 1405.

Thus, following Ninth Circuit caselaw, this court must determine whether Nintendo has shown a likelihood of success on its prima

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facie case of copyright infringement and a likelihood that it will overcome Atari's copyright misuse defense. *See H.H. Robertson, Co. v. United Steel Deck*, 820 F.2d 384, 388-89 [ 2 USPQ2d 1926 ] (Fed.Cir. 1987) (entitlement to preliminary injunction "is determined in the context of presumptions and burdens that inhere at trial on the merits"); *Gutierrez v. Municipal Court of the Southeast Judicial District, County of Los Angeles*, 838 F.2d 1031, 1038-45 (9th Cir. 1988); *Half Moon Bay Fishermans' Marketing v. Carlucci*, 857 F.2d 505, 507-12 (9th Cir. 1988); *Hale v. Department of Energy*, 806 F.2d 910, 915-18 (9th Cir. 1986).

## Copyright Infringement

To prevail on its copyright infringement claim, Nintendo must show ownership of the 10NES program copyright and copying by Atari of protectable expression from the 10NES program. *Feist Publications v. Rural Tel. Serv. Co.*, 111 S.Ct. 1282, 1296 [ 18 USPQ2d 1275 ] (1991); *Brown Bag Software v. Symantec Corp.*, 960 F.2d 1465, 1472 [ 22 USPQ2d 1429 ] (9th Cir. 1992); *Johnson Controls*, 886 F.2d at 1175. The parties do not dispute that Nintendo owns the 10NES copyright. Therefore, Nintendo need only prove that Atari copied protectable expression from the 10NES program.

Nintendo can show copying by proving that Atari made literal copies of the 10NES program. Alternatively, Nintendo can show copying by proving that Atari had access to the 10NES program and that Atari's work -- the Rabbit program -- is substantially similar to Nintendo's work in ideas and the expression of those ideas. *Johnson Controls*, 886 F.2d at 1176; *Landsberg v. Scrabble Crossword Game Players*, 736 F.2d 485, 488 [ 221 USPQ 1140 ] (9th Cir.), *cert. denied*, 469 U.S. 1037 (1984). The parties do not dispute that Atari had access to the 10NES program. Thus, to show non-literal copyright infringement, Nintendo must ultimately prove substantial similarity between the 10NES and the Rabbit in protectable expression. To determine whether Nintendo is likely to so prove, this court must first distinguish protectable expression from the unprotected elements of the 10NES program. *Johnson Controls*, 886 F.2d at 1175.

*Copyright Overview*

Article I, Section 8, cl. 8, of the Constitution gives Congress power “ [T]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.” The Constitution thus gives Congress the authority to set the parameters of authors’ exclusive rights. *Sony Corp. of Am. v. Universal City Studios*, 464 U.S. 417, 429 [ 220 USPQ 665] (1984). <sup>2</sup>The Copyright Act of 1976, in general, protects “original works of authorship fixed in any tangible medium of expression.” 17 U.S.C. Section 102(a) (1988). To explain the term “works of authorship,” the Act sets forth a statutory list of categories within the term. The first category on this non-exclusive list is “literary works.” *Id.*

[2] The statutory definition of “literary works” embraces computer programs:

“Literary works” are works, other than audiovisual works, expressed in words, numbers, or other verbal or numerical symbols or indicia, regardless of the nature of the material objects, such as books, periodicals, manuscripts, phonorecords, film, tapes, disks, or cards, in which they are embodied.

17 U.S.C. Section 101 (1980). As works “expressed in words, numbers, or other verbal or numerical symbols or indicia,” computer programs fall within the terms of the 1976 Act. The House Report for the 1976 Act explicitly includes computer programs within “literary works”:

The term “literary works” does not connote any criterion of literary merit or qualitative value: it includes . . . computer data bases, and computer programs to the extent that they incorporate authorship in the programmer's expression of original ideas, as distinguished from the ideas themselves.

H.R. Rep. No. 1476, 94th Cong., 2d Sess. 54 (1976), *reprinted in* 1976 U.S.C.C.A.N. 5659, 5666. As literary works, copyright protection extends to computer programs, *see, e.g., Johnson Controls*, 886 F.2d 1173, 1175 [12 USPQ2d 1566 ]; *S.O.S., Inc. v. Payday, Inc.*, 886 F.2d 1081 [ 12 USPQ2d 1241 ] (9th Cir. 1989), and to instructions encoded on silicon chips, *Apple Computer v. Formula International*, 725 F.2d 521 [ 221 USPQ 762] (9th Cir. 1984).

The 1976 Act, however, sets limits on the scope of copyright protection. In the words of the Supreme Court, “ [t]he mere fact that a work is copyrighted does not mean that every element of the work may be protected.” *Feist*, 111 S.Ct. at 1289;

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*accord Harper &*

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*Row, Publishers v. Nation Enter.* , 471 U.S. 539, 547-48 [225 USPQ 1073 ] (1985).

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Section 102(b) of title 17 states:

In no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work.

17 U.S.C. Section 102(b). The 1976 House Report on section 102(b) applies this limitation directly to computer programs.

Some concern has been expressed lest copyright in computer programs should extend protection to the methodology or processes adopted by the programmer, rather than merely to the "writing" expressing his ideas. Section 102(b) is intended, among other things, to make clear that the expression adopted by the programmer is the copyrightable element in a computer program, and that the actual processes or methods embodied in the program are not within the scope of the copyright law.

H.R. Rep. No. 1476, 94th Cong., 2d Sess. 57 (1976), *reprinted in* 1976 U.S.C.C.A.N. 5659, 5670. *Protectable Expression* This overview of copyright law explains the trial court's initial task is separating protectable expression in the 10NES program from unprotectable ideas, facts, processes, and methods of operation. The Copyright Act, however, contains no explicit standards for separating a computer program's expression from its idea. Rather this court must examine tests used for other literary works to distinguish expression from idea.

Judge Learned Hand devised an abstraction test to separate the idea from expression in written or dramatic works:

Upon any work . . . a great number of patterns of increasing generality will fit equally well, as more and more of the incident is left out. . . . [T]here is a point in this series of abstractions where they are no longer protected, since otherwise the playwright could prevent the use of his "ideas," to which, apart from their expression, his property is never extended.

*Nichols v. Universal Pictures Corp.*, 45 F.2d 119, 121 [7 USPQ 84] (2d Cir. 1930), *cert. denied*, 282 U.S. 902-03 (1931). Our sister circuit recently applied this test in a computer program copyright case. *Computer Assocs. Int'l v. Altai, Inc.*, 23 USPQ2d 1241, 1252-53 (2d Cir. 1992); *cf.*, *Whelan Assocs. v. Jaslow Dental Lab.*, 797 F.2d 1222 [230 USPQ 481] (3d Cir. 1986), *cert. denied*, 479 U.S. 1031 (1987). Judge Hand's abstraction analysis forces differentiation of the unprotectable idea and protectable expression. The abstraction method also properly recognizes that a computer program contains many distinct ideas. *Computer Assocs. Int'l*, 23 USPQ2d at 1253. The Ninth Circuit as well endorses dissection of a copyrighted work. *Brown Bag*, 960 F.2d at 1475-76. By separating the program into manageable components, this method eases the court's task of discerning the boundaries of protectable expression.

After separating the program into manageable components, the court must next filter the unprotectable components of the program from the protectable expression. *See Computer Assocs. Int'l*, 23 USPQ2d at 1253. The court must filter out as unprotectable the ideas, expression necessarily incident to the idea, expression already in the public domain, expression dictated by external factors (like the computer's mechanical specifications,

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compatibility with other programs, and demands of the industry served by the program), and expression not original to the programmer or author. *Id.* at 1253, 1255, 1256; see also *Harper & Row*, 471 U.S. at 548; *Plains Cotton Coop. Ass'n v. Goodpasture Computer Serv.*, 807 F.2d 1256 [1 USPQ2d 1635] (5th Cir.), *cert. denied*, 484 U.S. 821 (1987).

In addition, copyright protection does not "extend to any . . . procedure, process, system [or] method of operation." 17 U.S.C. Section 102(b). In conformance with the standards of patent law, title 35 provides protection for the process or method performed by a computer in accordance with a program. See *Arrhythmia Research Technology v. Corazonix Corp.*, 958 F.2d 1053 [22 USPQ2d 1033] (Fed.Cir. 1992). Thus, patent and copyright laws protect distinct aspects of a computer program. See *Baker v. Selden*, 101 U.S. 99, 103 (1879). Title 35 protects the process or method performed by a computer program; title 17 protects the expression of that process or method. While title 35 protects any novel, nonobvious, and useful process, title 17 can protect a multitude of expressions that implement that process. If the patentable process is embodied inextricably in the line-by-line instructions of the computer program, however, then the process merges with the expression and precludes copyright protection. See *Formula Int'l*, 725 F.2d at 525; *Apple Computer v. Franklin Computer*, 714 F.2d 1240, 1253

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[219 USPQ 113] (3d Cir. 1983), *cert. dismissed*, 464 U.S. 1033 (1984).

This court, in applying Ninth Circuit law, must determine whether each component of the 10NES program "qualifies as an expression of an idea, or an idea itself." *Johnson Controls*, 886 F.2d at 1175. This determination depends on "the particular facts of each case." *Id.*

[3] Nintendo's 10NES program contains more than an idea or expression necessarily incident to an idea. Nintendo incorporated within the 10NES program creative organization and sequencing unnecessary to the lock and key function. Nintendo chose arbitrary programming instructions and arranged them in a unique sequence to create a purely arbitrary data stream. This data stream serves as the key to unlock the NES. Nintendo may protect this creative element of the 10NES under copyright.

External factors did not dictate the design of the 10NES program. Nintendo may have incorporated some minimal portions of the program to accommodate the microprocessor in the NES, but no external factor dictated the bulk of the program. Nor did Nintendo take this program from the public domain. By registering the 10NES with the Copyright Office, Nintendo obtained the benefit of a presumption of originality which Atari does not rebut on this record.

Finally, Nintendo seeks to protect the creative element of its program beyond the literal expression used to effect the unlocking process. The district court defined the unprotectable 10NES idea or process as the generation of a data stream to unlock a console. This court discerns no clear error in the district court's conclusion. The unique arrangement of computer program expression which generates that data stream does not merge with the process so long as alternate expressions are available. *Formula Int'l*, 725 F.2d at 525. In

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this case, Nintendo has produced expert testimony showing a multitude of different ways to generate a data stream which unlocks the NES console.

At this stage in the proceedings of this case, Nintendo has made a sufficient showing that its 10NES program contains protectable expression. After filtering unprotectable elements out of the 10NES program, this court finds no error in the district court's conclusion that 10NES contains protectable expression. Nintendo independently created the 10NES program and exercised creativity in the selection and arrangement of its instruction lines. See *Bellsouth Advertising & Publishing v. Donnelly Info. Publishing*, 933 F.2d 952, 957 [19 USPQ2d 1345] (11th Cir. 1991) (selection, coordination, or arrangement of information constitutes originality). The security function of the program necessitated an original signal combination to act as a lock and key for the NES console. To generate an original signal, Nintendo had to design an original program. In sum, the district court properly discerned that the 10NES program contains protectable expression. At a minimum, Nintendo may protect under copyright the unique and creative arrangement of instructions in the 10NES program.

Next, this court must determine whether the district court correctly determined that Nintendo has shown sufficient evidence that Atari either literally copied the 10NES or had access to the 10NES and produced a substantially similar copy. Nintendo argues that Atari's unauthorized acquisition of a copy from the Copyright Office literally infringed the 10NES program. Nintendo also argues that copies of the 10NES program made in the reverse engineering process literally infringe the 10NES copyright. Finally, Nintendo argues that Atari's Rabbit program is substantially similar to the 10NES and therefore infringes the 10NES copyright. A single copy is sufficient to support a claim of copyright infringement. See 17 U.S.C. Section 106; 1 U.S.C. Section 1 (1988) ("words imparting the plural include the singular"); S. Rep. No. 94-473 at 58 (1975); H.R. Rep. No. 94-1476 at 61 (1976). Even for works warranting little copyright protection, verbatim copying is infringement. See *Data East USA v. Epyx, Inc.*, 862 F.2d 204, 209 [9 USPQ2d 1322] (9th Cir. 1988); *Sid & Marty Krofft Television Prods. v. McDonald's Corp.*, 562 F.2d 1157, 1168 [196 USPQ 97] (9th Cir. 1977).

### *Verbatim Copying*

Atari acquired a copy of the 10NES program from the Copyright Office and used it to replicate the 10NES source code. The Copyright Act states:

Copies or reproductions of deposited articles retained under the control of the Copyright Office shall be authorized or furnished only under the conditions specified by the Copyright Office regulations.

17 U.S.C. Section 706(b). In conformance with protective regulations, this provision permits access to copyrighted works. Copies obtained from the Copyright Office in violation of the regulations, however, are unauthorized reproductions.

Section 201.2(d)(2) of the Regulations of the Copyright Office (as amended through July 1, 1986), permit reproduction only if: (1) the copyright owner grants permission, (2) a court orders reproduction, or (3)

(ii) The Copyright Office receives a written request from an attorney on behalf of either the

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plaintiff or defendant in connection with litigation, actual or prospective, involving the copyrighted work. The following information must be included in such a request: (A) The names of all the parties involved and the nature of the controversy; (B) the name of the court in which the actual case is pending or, in the case of a prospective proceeding, a full statement of the facts of the controversy in which the copyrighted work is involved; and (C) satisfactory assurance that the requested reproduction will be used only in connection with the specified litigation.

*Id* . Under this regulation, Atari requested the 10NES program in 1988. <sup>3</sup>

Section 201.2(d)(2) refers to "litigation, actual or prospective." The term "prospective litigation," as used in the regulation, means more than a subjective expectation of litigation at some unspecified future time. Otherwise, anyone desiring a copy of a deposited work would only need to allege a speculative future dispute. Instead, the regulation repeatedly refers to and requests information about an actual controversy between parties. This language, in context, clarifies that the regulation requires an objective, reasonable apprehension of litigation.<sup>4</sup>

In this case, Nintendo is likely to show that Atari had no reasonable apprehension of litigation in 1988. In fact, Atari was not in a position to infringe before acquiring the 10NES program from the Copyright Office. Atari was Nintendo's licensee in 1988. Atari had no product, allegedly infringing or not, to perform the function of the 10NES program. Without any allegedly infringing program at all in 1988, Atari had no reason to fear a copyright infringement suit from Nintendo. Therefore, no controversy at all existed when Atari acquired the 10NES program from the Copyright Office. Without an actual controversy, Atari's acquisition of the 10NES source code violated Copyright Office rules. Reproduction of an unauthorized copy from the Copyright Office violates 17 U.S.C. Section 106(1).

[4] On this record, the district court did not err in determining that Nintendo is likely to show successfully that Atari infringed the 10NES copyright by obtaining and copying the source code from the Copyright Office.

### *Reverse Engineering*

Atari made copies of the 10NES program in its attempts to "reverse engineer" Nintendo's program. Atari made intermediate copies in two very different settings. Before obtaining the Copyright Office copy of 10NES, Atari tried to understand the program. Atari stripped some 10NES chips and copied portions of the 10NES object code from the chips.<sup>5</sup>

After obtaining the copy of the code from the Copyright Office, Atari made other intermediate copies of the program. Atari made photocopies of the Copyright Office copy, deprocessed chips, and hand-copied the 10NES object code from the deprocessed chip. Atari then entered this copied 10NES object code into a computer which aided in understanding the ideas in the program. The district court determined that this intermediate copying infringed Nintendo's copyright.

The Copyright Act encourages authors to share their creative works with society. The Constitution sets forth the purpose of copyright protection as the promotion of "the

Progress of Science", not the rewarding of authors. U.S. Const. art. I, Section 8, cl. 8; *Feist* 111 S.Ct. at 1290; see also, *Harper & Row*, 471 U.S. at 546; *Sony Corp.*, 464 U.S. at 429-30; *Twentieth Century Music v. Aiken*, 422 U.S. 151, 156 [ 186 USPQ 65] (1975); *Fox Film Corp. v. Doyal*, 286 U.S. 123, 127 [13 USPQ 243 ] (1932). The Copyright Act thus balances "the interests of authors . . . in the control and exploitation of their writings . . . on the one hand, and society's competing interests in the free flow of ideas, [and] information . . . on the other hand." *Sony Corp.*, 464 U.S. at 429-30. Thus, while providing exclusive rights to expression, the Act "encourages others to build freely upon the ideas and information conveyed by a work." *Feist*, 111 S.Ct. at 1290. The Act grants authors enumerated exclusive rights, see 17 U.S.C. Section 106, subject to limitations, see 17 U.S.C. Sections 107-112.

The author does not acquire exclusive rights to a literary work in its entirety. Under the Act, society is free to exploit facts, ideas, processes, or methods of operation in a copyrighted work. See, e.g., *Feist*, 111 S.Ct. at 1289-90. To protect processes or methods of operation, a creator must look to patent laws. See *Bonito Boats v. Thunder Craft Boats*, 489 U.S. 141 [ 9 USPQ2d 1847] (1989); *Arrhythmia Research*, 958 F.2d at 1053; see also *The Law & Business of Computer Software*, Section 2.07 (D.C. Toedt III ed. 1991). An author cannot acquire patent-like protection by putting an idea, process, or method of operation in an unintelligible format and asserting copyright infringement against those who try to understand that idea, process, or method of operation. See, e.g., *Feist*, 111 S.Ct. at 1290; 17 U.S.C. Section 102(b). The Copyright Act permits an individual in rightful possession of a copy of a work to undertake necessary efforts to understand the work's ideas, processes, and methods of operation. This permission appears in the fair use exception to copyright exclusivity. Section 107 of the Copyright Act states that "fair use of a copyrighted work, including such use by reproduction in copies . . . for purposes such as criticism, comment, news reporting, teaching . . . scholarship or research" is not infringement. 17 U.S.C. Section 107. The legislative history of section 107 suggests that courts should adapt the fair use exception to accommodate new technological innovations. H.R. Rep. No. 1476, 94th Cong., 2d Sess. 66 (1976), reprinted in U.S.C.C.A.N. 5659, 5679-80; 17 U.S.C. Section 107; see also *Twentieth Century*, 422 U.S. at 156 ("when technological change has rendered its literal terms ambiguous, the Copyright Act must be construed in light of [its] basic purpose.").

Thus, the Act exempts from copyright protection reproductions for "criticism, comment . . . or research." These activities permit public understanding and dissemination of the ideas, processes, and methods of operation in a work:

The copyright holder has a property interest in preventing others from reaping the fruits of his labor, not in preventing the authors and thinkers of the future from making use of, or building upon, his advances. The process of creation is often an incremental one, and advances building on past developments are far more common than radical new concepts. See *Lewis Galoob Toys, Inc. v. Nintendo*, No. 91-16205, slip op. at 5843 [22 USPQ2d 1857 ] (9th Cir. May 21, 1992). Where the infringement is small in relation to the new work created, the fair user is profiting largely from his own creative efforts rather than free-riding



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on another's work. A prohibition on all copying whatsoever would stifle the free flow of ideas without serving any legitimate interest of the copyright holder.

*New Kids on the Block v. News Am. Publishing*, Nos. 90-56219, 90-56258, slip op. at 4 n.6, 1992 WL 171570 [ 23 USPQ2d 1534] (9th Cir. July 24, 1992). See also *Harper & Row*, 471 U.S. at 549 (fair use implied when "promoting progress of science and the useful arts").

[5] Section 107 also requires examination of the nature of the work when determining if a reproduction is a fair use. 17 U.S.C. Section 107(2). When the nature of a work requires intermediate copying to understand the ideas and processes in a copyrighted work, that nature supports a fair use for intermediate copying. Thus, reverse engineering object code to discern the unprotectable ideas in a computer program is a fair use. See *Feist*, 111 S.Ct. at 1290, (" [C]opyright does not prevent subsequent users from copying from a prior author's work those constituent elements that are not original -- for example . . . facts, or materials in the public domain -- as long as such use does not unfairly appropriate the author's original contributions."); cf. *New Kids*, slip op. at 4 n.6; contra *Sega Enter. v. Accolade, Inc.*, No. C-91-3871, slip op. at 5 [23 USPQ2d 1440] (N.D. Cal. Apr. 3, 1992).

Fair use to discern a work's ideas, however, does not justify extensive efforts to profit from replicating protected expression. Subparagraphs 1 and 4 of section 107 clarify that the fair use in intermediate copying does not extend to commercial exploitation of

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protected expression. *Sony Corp.*, 464 U.S. at 451. The fair use reproductions of a computer program must not exceed what is necessary to understand the unprotected elements of the work. This limited exception is not an invitation to misappropriate protectable expression. Any reproduction of protectable expression must be strictly necessary to ascertain the bounds of protected information within the work.

In this case, the source code obtained from the Copyright Office facilitated Atari's intermediate copying of the 10NES program. To invoke the fair use exception, an individual must possess an authorized copy of a literary work. see *Harper & Row*, 471 U.S. at 562-63 (Knowing exploitation of purloined manuscript not compatible with "good faith" and "fair dealings" underpinnings of fair use doctrine.). Because Atari was not in authorized possession of the Copyright Office copy of 10NES, any copying or derivative copying of 10NES source code from the Copyright Office does not qualify as a fair use.

Reverse engineering, untainted by the purloined copy of the 10NES program and necessary to understand 10NES, is a fair use. An individual cannot even observe, let alone understand, the object code on Nintendo's chip without reverse engineering. Atari retrieved this object code from NES security chips in its efforts to reverse engineer the 10NES program. Atari chemically removed layers from Nintendo's chips to reveal the 10NES object code. Through microscopic examination of the "peeled" chip, Atari engineers transcribed the 10NES object code into a handwritten list of ones and zeros. While these ones and zeros represent the configuration of machine readable software, the ones and zeros convey little, if any,



information to the normal unaided observer. Atari then keyed this handwritten copy into a computer. The computer then “disassembled”<sup>6</sup> the object code or otherwise aided the observer in understanding the program's method or functioning. This “reverse engineering” process, to the extent untainted by the 10NES copy purloined from the Copyright Office, qualified as a fair use.

The district court assumed that reverse engineering (intermediate copying) was copyright infringement. *Atari Games v. Nintendo of Am.*, Nos. 88-4805, 89-0027, 89-0824, slip op. at 11-13 [ 18 USPQ2d 1935 ] (N.D. Cal. Apr. 11, 1991). This court disagrees. Atari did not violate Nintendo's copyright by deprocessing computer chips in Atari's rightful possession. Atari could lawfully deprocess Nintendo's 10NES chips to learn their unprotected ideas and processes. This fair use did not give Atari more than the right to understand the 10NES program and to distinguish the protected from the unprotected elements of the 10NES program. Any copying beyond that necessary to understand the 10NES program was infringement. Atari could not use reverse engineering as an excuse to exploit commercially or otherwise misappropriate protected expression.

### *Substantial Similarity*

Even in the absence of verbatim copying, a copyright owner may show infringement “by showing that the infringer had access to the work and that the two works are substantially similar.” *Shaw v. Lindheim*, 919 F.2d 1353, 1356 [15 USPQ2d 1516 ] (9th Cir. 1990); accord *Baxter v. MCA, Inc.*, 812 F.2d 421, 423 [ 2 USPQ2d 1059] (9th Cir.), *cert. denied*, 484 U.S. 954 (1987). This doctrine prevents a plagiarist from escaping infringement by making immaterial changes in the protected work.

The Ninth Circuit uses a two-step analysis to evaluate substantial similarity:

First, an “extrinsic” test is used to determine whether two ideas are substantially similar. This is an objective test which rests upon specific criteria that can be listed and analyzed. Second, an “intrinsic” test is used to compare forms of expression. This is a subjective test which depends on the response of the ordinary reasonable person.

*Data East*, 862 F.2d at 208 (citations omitted). In the context of computer programs, the “ordinary reasonable person” with the ability to intelligently respond to computer expression is a computer programmer. *Johnson Controls*, 886 F.2d at 1176 n.4. Thus, in addition to the lay response of a fact-finder, the Ninth Circuit permits expert testimony about the second prong of the substantial similarity test. *Cf. Brown Bag*, 960 F.2d at 1474 n.3 (acknowledging movement toward test “in which lay and expert testimony are uniformly admissible” in computer copyright cases).

[6] In applying this test, the district court correctly considered expert testimony recounting striking similarities between the Rabbit and 10NES programs. Moreover, the trial court detected similarities between the programs beyond the similarities necessary to

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accommodate the programming environment, or similarities necessary to embody the unprotectable idea, process, or method of the 10NES program.

Specifically, the district court noted that the Rabbit program incorporates elements of the 10NES program unnecessary for the chip's performance. The 10NES slave chip performs some functions beyond unlocking the NES console. For example, the 10NES slave chip shuts down upon receipt of an erroneous message from a master chip. The Rabbit program too contains this feature. This disabling feature is unnecessary to achieve Atari's stated purpose -- unlocking the NES console.

In another example, the district court noted that Nintendo *modified* its 10NES slave chip program in 1987. This modification deleted some instructions from the original 10NES program. Nonetheless the Rabbit program contains instructions equivalent to those deleted from the original 10NES program. These unnecessary instructions strongly suggest that the Rabbit program is substantially similar to the 10NES program. See, e.g., *M. Kramer Mfg. Co. v. Andrews*, 783 F.2d 421, 446 [228 USPQ 705] (4th Cir. 1986) ("Courts have consistently viewed 'common errors' as strongest evidence of copying."); *E.F. Johnson Co. v. Uniden Corp. of Am.*, 623 F.Supp. 1485, 1496 [228 USPQ 891] (D. Minn. 1985) ("The existence of the identical unnecessary instructions in both codes is strong proof of substantial similarity."); *SAS Inst. v. S & H Computer Sys.*, 605 F.Supp. 816, 824, 826 [225 USPQ 916] (M.D. Tenn. 1985) (inclusion of unnecessary statement "explained only as a result of slavish copying of structural detail").

While Atari may freely reproduce the idea or process of Nintendo's 10NES code, copying of fully extraneous instructions unnecessary to tie 10NES program's function strongly supports the district court's imposition of an injunction on the likelihood Nintendo will show infringement. The unnecessary instructions in the Rabbit program suggest copying, not independent creation. As Judge Learned Hand said, "No plagiarist can excuse the wrong by showing how much of his work he did not pirate." *Sheldon v. Metro Goldwyn Pictures Corp.*, 81 F.2d 49, 56 [28 USPQ 330] (2d Cir.), *cert. denied*, 298 U.S. 669 (1936). Atari *argued* that incorporation of the unnecessary instructions was necessary to insure future compatibility. The district court did not abuse its discretion by refusing to allow Atari to rely on speculative future events to justify inclusion of unnecessary 10NES program elements in the Rabbit program.

In sum, Nintendo is likely to show that its 10NES program contains protectable expression. Atari's efforts to reverse engineer the 10NES chip to learn the ideas in the program will not alone support a copyright infringement claim. To the extent, however, Nintendo is likely to show misappropriation and copying of the unauthorized Copyright Office copy, it is likely to succeed on the merits of its infringement claim. Alternatively, Nintendo is likely to prove substantial similarity between the Rabbit and 10NES programs sufficient to support its infringement claims. This record thus justifies the trial court's imposition of a preliminary injunction.

## Copyright Misuse

As a defense to copyright infringement, Atari asserts Nintendo has misused its copyright of the lockout program. Atari alleges Nintendo has conditioned the license of its copyrighted lockout program on the acceptance of contract provisions that give it control over the

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games developed by independent, third-party software developers. The standard license exclusivity provision Nintendo includes in its contracts provides:

*Exclusivity* : LICENSEE agrees to sell the Licensed Products for use only in conjunction with the NES. For a period of two (2) years following the date of first sale by LICENSEE of any Licensed Products pertaining to any particular video game program developed by LICENSEE under this Agreement, LICENSEE will not adapt or offer such video game program or any derivatives of such video game program, for use in any: (a) other home video system; or, (b) home computer system. . . .

The district court granted Nintendo's motion for preliminary injunction in response to which Atari asserted the copyright misuse defense. Atari contends Nintendo's copyright misuse should prevent copyright enforcement. The district court did not discuss copyright misuse in its order granting the preliminary injunction. However, on Atari's earlier motion for summary judgment, the court held, as a matter of law, that Nintendo did not misuse its copyright:

The record does not demonstrate, as a matter of law, that such restrictions restrain the creativity of Nintendo licensees

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and thereby thwart the intent of the patent and copyright laws.

*Atari Games v. Nintendo of Am.* , Nos. 88-4805, 89-0027, slip op. at 5-6, (N.D. Cal. Mar. 5, 1991).

In its opinion, the district court raised questions about the origin of a copyright misuse defense. Once again, this court applies Ninth Circuit law. *Sun Studs v. Applied Theory Assoc.*, 772 F.2d 1557, 1560-61 [ 227 USPQ 81] (Fed.Cir. 1985).

Several circuit courts, including the Ninth Circuit, have entertained defenses of copyright misuse. *Lasercomb Am. v. Reynolds* , 911 F.2d 970 [15 USPQ2d 1846] (4th Cir. 1990); *United Tel. Co. v. Johnson Publishing Co.*, 855 F.2d 604, 610-12 [ 8 USPQ2d 1058] (8th Cir. 1988); *Supermarket of Homes v. San Fernando Valle y Bd. of Realtors* , 786 F.2d 1400, 1408 [230 USPQ 316] (9th Cir. 1986); *F.E.L. Publications v. Catholic Bishop*, 214 U.S.P.Q. 409, 413 (7th Cir.), cert. denied , 459 U.S. 859 (1982); *Edward B. Marks Music v. Colorado Magnetics*, 497 F.2d 285, 290 [ 181 USPQ 129] (10th Cir. 1974), cert. denied , 419 U.S. 1120 (1975); *Broadcast Music v. Moor-Law*, 527 F.Supp. 758, 772 [ 184 USPQ 385] (D. Del. 1981), aff'd without opinion , 691 F.2d 490 (3rd Cir. 1982); *Mitchell Bros. Film Group v. Cinema Adult Theater* , 604 F.2d 852, 865 [203 USPQ 1041] (5th Cir. 1979), cert. denied , 445 U.S. 917 (1980). Only one circuit has sustained the defense. *Lasercomb* , 911 F.2d at 970. Although no Ninth Circuit case has applied the defense to prevent enforcement of a copyright infringement claim, the Ninth Circuit suggests that, under the appropriate factual setting, copyright misuse may be a viable defense against a claim of copyright infringement. *Supermarket of Homes*, 786 F.2d at 1408; see also, *Sega Enter.*, slip op. at 13.

Although it has yet to apply the copyright misuse defense, the United States Supreme Court

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has given at least tacit approval of the defense. *United States v. Loew's, Inc.*, 371 U.S. 38 [ 135 USPQ 201] (1962). In *Loew's*, the Court applied principles of patent misuse to a patentee's unlawful tying arrangements and held that recovery for infringement should be denied. The Court then went on to apply, with reference to the copyrights, the same antitrust restrictions on tie-in of sales. Numerous cases suggest that the purpose and policy of patent misuse apply as well to copyright. See, e.g., *Sony Corp.*, 464 U.S. at 439; *Loew's*, 371 U.S. at 44-51; *United States v. Paramount Pictures*, 334 U.S. 131, 157-59 [ 77 USPQ 243] (1948); *Mitchell Bros.*, 604 F.2d at 865; *Bellsouth*, 933 F.2d at 960-61.

[7] In the absence of any statutory entitlement to a copyright misuse defense, however, the defense is solely an equitable doctrine. Any party seeking equitable relief must come to the court with "clean hands." *Keystone Driller Co. v. General Excavator Co.*, 290 U.S. 240, 245 [19 USPQ 228] (1933). The Ninth Circuit has noted that the doctrine of unclean hands can also preclude the defense of copyright misuse. *Supermarket of Homes*, 786 F.2d at 1408. The district court states, "Atari lied to the Copyright Office in order to obtain the copyrighted 10NES program." *Atari Games v. Nintendo of Am.*, Nos. 88-4805, 89-0027, 89-0824, slip op. at 14, (N.D. Cal. Apr. 11, 1991). This record supports the district court's conclusion and suggests that Atari's unclean hands prevent it from invoking equity. Thus, even if the Ninth Circuit permits an equitable copyright misuse defense, Atari appears ineligible to invoke the defense. This court discerns no reversible error in the district court's assessment of Nintendo's likelihood of success on the merits of its copyright infringement claim.

## CONCLUSION

The district court did not err by granting Nintendo's request for a preliminary injunction. Nintendo is likely to prove that the 10NES program contains protected expression. Nintendo is also likely to prove that Atari made unauthorized verbatim copies of the 10NES program. On this record, the district court did not err in determining that Nintendo is likely to show successfully that Atari infringed the 10NES copyright by obtaining and copying the source code from the Copyright Office. Furthermore, Nintendo is likely to prove that Atari's Rabbit program is substantially similar to the 10NES program and that the similarities relate to protected expression. Nintendo is also likely to overcome Atari's assertion of copyright misuse as a defense. Atari presents no arguments to rebut the presumption of irreparable harm that arises upon a showing of likelihood of success on the merits.

**AFFIRMED**

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## Footnotes

- 1 Object code is machine readable, binary code, represented on paper as a series of ones

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and zeroes. In actuality, those ones and zeroes represent "on" and "off" states of switches on a computer chip. In the 10NES chips, the object code, contained in chip memories, is implemented when the chips are operational. When operational, the chips generate a series of "ons" and "offs" in a particular sequence. That results in a pulsating signal which conveys messages to the computer.

2 For a thorough historical presentation of Congress's copyright enactments, see *Lotus Development v. Paperback Software International*, 740 F.Supp. 37, 47-51 [15 USPQ2d 1577 ] (D. Mass. 1990).

3 In 1991, the Copyright Office circulated the following notice:

The Copyright Office has recently become aware that an attorney completing the previous Litigation Statement form provided by the Office could generally allege that a controversy existed when in fact no real controversy did exist. An attorney could thus receive reproductions of deposits not authorized by the regulations. The Litigation Statement form has been amended to require the applicant to give more specific information regarding prospective proceedings and to include supporting documentation.

Fed.Reg. 12,957 (1991).

4 Patent law applies an analogous test to determine an actual controversy. See *Sony Corp. of Am. v. Universal City Studios*, 464 U.S. 417, 439 [220 USPQ 665 ] (1984) (appropriate to refer to patent case law in copyright cases "because of the historic kinship between patent law and copyright law"). In the patent declaratory judgment context, a two-prong analysis defines an actual controversy. *Spectronics Corp. v. H.B. Fuller Co.*, 940 F.2d 631, 634 [19 USPQ2d 1545] (Fed.Cir.), *cert. denied*, 112 S.Ct. 658 (1991). First, an alleged patent infringer must have infringed or be in a position to infringe. *Id.* Second, the patentee's "conduct must create an objectively reasonable apprehension on the part of the accused infringer that the patent holder will initiate suit if the allegedly infringing activity continues." *Id.*

5 The Semiconductor Chip Protection Act of 1984 permits, in some limited circumstances, reverse engineering to reproduce a mask work. 17 U.S.C. Section 906 (1988). This Act, while supporting reverse engineering to help disseminate the ideas embodied in a mask work, does not apply in this case. Atari did not reproduce or copy Nintendo's chip or mask work. In fact, Atari used an entirely different chip. Atari instead allegedly copied the program on Nintendo's chip. Therefore, the 1984 Act does not apply.

6 Computer programs are normally written in a high-level language such as C or FORTRAN. Once written, the program is translated from the high-level language to machine-readable object code. This translation process, called compiling, is performed by a computer as instructed by a compiling program. As mentioned previously, the idea or process expressed in a program is not easily discernible from object code. Object code is disassembled to facilitate understanding the idea or process expressed. Disassembly is basically the reverse of compilation. Object code is translated via a disassembly program to a higher, more intelligible language called assembly language.

- End of Case -  
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Atari Games Corp. v. Nintendo of America Inc., 30 USPQ2D 1401 (N.D. Cal. 1993)

**Atari Games Corp. v. Nintendo of America Inc.**

**U.S. District Court Northern District of California**

**30 USPQ2D 1401**

**Nos. C 88-4805 FMS and C 89-0027 FMS**

**Decided April 15, 1993, and May 18, 1993**

**Headnotes**

**COPYRIGHTS**

**[1] Elements of copyright -- Statutory elements -- Originality (§ 205.0707)**

**Protectability of computer products -- Object codes, source codes, and non-code elements (§ 225.05)**

Signal stream which is sent, during authentication stage, from cartridge chip to console chip of plaintiff's "10NES" computer program designed to prevent plaintiff's home video game system from accepting unauthorized game cartridges, is program "output" and thus is not automatically excluded from copyright protection, nor automatically entitled to protection; evidence showing that such signal stream consists of numbers which are predetermined by random "seed" value generated at beginning of program, and which function as "lock" precisely because they are arbitrary and cannot be determined prior to execution of program, warrants finding that they lack requisite originality to warrant copyright protection.

**[2] Rights in copyright; infringement -- Fair use -- In general (§ 213.1501)**

**Protectability of computer products -- Infringement (§ 225.07)**

Policy which may permit, under fair use analysis, certain amount of copying of computer code in order to ensure compatibility of video game systems, so as to balance incentives for both game developers and console manufacturers, should not be extended to allow copying in order to ensure future compatability, since such extension would destroy balance by eliminating console manufacturers' lead time.

**[3] Infringement -- Construction of claims (§ 120.03)**

**Patent construction -- Claims -- Defining terms (§ 125.1305)**

Term "predetermined relationship," in claim for video game system, is not inherently technical term, nor is it term of art in computer science field, and thus expert testimony as to its meaning is not required; term is not on its face unambiguous, however, and thus analysis of specification is necessary to determine that term means relationship between data exchanged by programs.

**[4] Infringement -- Literal infringement (§ 120.05)**

Accused video game cartridge which sends one of 16 predetermined sets of data to game console each time program is executed, with console then simultaneously sending one specific predetermined set of data to cartridge, infringes patent in suit, which calls for "predetermined relationship" between data sent by cartridge to console and by console to cartridge.

**[5] Patentability/Validity -- Specification -- Written description (§ 115.1103)**

**JUDICIAL PRACTICE AND PROCEDURE**

**Procedure -- Summary judgment -- Patents (§ 410.3303)**

Accused infringer's assertion that patent for video game system is invalid because patent describes only invention in which "identical" data is exchanged while patentee claims systems in which "different" data is exchanged does not present issue of validity pursuant to written description requirement, 35 USC 112, but rather constitutes best mode argument, which is rarely sustainable on summary judgment.

**[6] Patentability/Validity -- Obviousness -- Combining references (§ 115.0905)**

Suggestion to combine references need not be explicit; determining whether suggestion to combine is legally sufficient depends upon ordinary skill in art, and thus is difficult to resolve until factfinder has answered factual inquiries regarding obviousness.

**[7] Patentability/Validity -- Anticipation -- Prior art (§ 115.0703)**

Prior art patent which discloses electronic security system that generates output signal indicative of locked condition does not inherently disclose or anticipate use of reset pin feature.

**[8] Patentability/Validity -- Obviousness -- Relevant prior art -- Particular inventions (§ 115.0903.03)**

**Patentability/Validity -- Obviousness -- Combining references (§ 115.0905)**

Suggestion, in prior art patent which discloses electronic security system that generates output signal indicative of locked condition, that it could be used in video games to prevent use of unauthorized software is sufficient by itself to preclude summary judgment of non-obviousness of claims for video game system, but summary judgment of obviousness, based upon combining prior art patent and predecessor home computer system, is also not warranted, in view of lack of any specific evidence of level of ordinary skill in art.



## **COPYRIGHTS**

### **[9] Rights in copyright; infringement; Right to reproduction -- Access, copying, and substantial similarity -- In general (§ 213.0503.01)**

#### **Protectability of computer products -- Infringement (§ 225.07)**

Analysis of substantial similarity exists in order to raise evidentiary inference of actual copying, and, given this evidentiary function, not all similarities should be treated equally; if similarities involve computer program code that serves no purpose in defendant's program, then evidentiary inference is strong.

#### **[10] Protectability of computer products -- Infringement (§ 225.07)**

Evidence showing six similarities, which are both probative of copying and which cannot be eliminated by filtration, between plaintiff's "10NES" computer program and defendant's accused "Rabbit" program warrants summary judgment of copyright infringement.

## **Particular Patents**

### **Particular patents -- General and mechanical -- Computers**

4,799,635, Nakagawa, system for determining authenticity of an external memory used in an information processing apparatus, claims 1 and 12 infringed.

### **Case History and Disposition**

Action by Atari Games Corp. against Nintendo of America Inc. for unfair competition, Sherman Act violations, and patent infringement, consolidated with action filed by Nintendo against Atari for unfair competition, copyright infringement, patent infringement, and trade secret violations. A preliminary injunction issued against Atari (18 USPQ2d 1935 ) was *affirmed* by the U.S. Court of Appeals for the Federal Circuit ( 24 USPQ2d 1015 ). On parties' cross-motions for summary judgment on patent and copyright infringement issues. Nintendo's motion with respect to patent infringement of claims 1 and 12 granted; Nintendo's motion for summary judgment of copyright infringement granted.

[Editor's Note: The opinion dated April 15, 1993, was initially filed under seal. The seal was lifted June 14, 1993, although certain portions of the opinion, including certain footnotes, were redacted].

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## Opinion Text

### Opinion By:

Smith, J.

Atari Games Corporation and Tengen, Inc. (collectively, "Atari") have filed various motions for summary judgment relating to Nintendo's copyright, patent, Lanham Act, and RICO claims. Nintendo has also filed two motions for summary judgment, relating to its patent claims based on U.S. Patent No. 4,799,635 ("the '635 patent").<sup>1</sup>

### BACKGROUND

#### I. GENESIS OF NINTENDO'S CLAIMS

The core events in this lawsuit have been well-described by the Federal Circuit in *Atari Games Corp. v. Nintendo of America, Inc.*, 975 F.2d 832 [24 USPQ2d 1015] (Fed.Cir. 1992) ("*Atari I*") (affirming preliminary injunction granted by this Court):

Nintendo's home video game system -- the NES -- includes a monitor, console, and controls. The console is a base unit into which a user inserts game cartridges. These cartridges contain the various game programs for the NES. . . . Nintendo designed a program -- the 10NES -- to prevent the NES from accepting unauthorized game cartridges. Both the NES console and authorized game cartridges contain microprocessors or chips programmed with the 10NES. The console contains a "master chip" or "lock." Authorized game cartridges contain a "slave chip" or "key." When a user inserts an authorized cartridge into a console, the slave chip in effect unlocks the console; the console detects a coded message and accepts the game cartridge. When a user inserts an unauthorized cartridge, the console detects no unlocking message and refuses to operate the cartridge. Nintendo's 10NES program thus controls access to the NES.

Atari first attempted to analyze and replicate the NES security system in 1986. Atari could not break the 10NES program by monitoring the communication between the master and slave chips. Atari next tried to break the code by analyzing the chips themselves. Atari analysts chemically peeled layers from the NES chips to allow microscopic examination of the object code. Nonetheless, Atari still could not decipher the code sufficiently to replicate the NES security system.

In December 1987, Atari became a Nintendo licensee. Atari paid Nintendo to gain access to the NES for its video games. The license terms, however, strictly controlled Atari's access to Nintendo's technology, including the 10NES program. Under the license, Nintendo would

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take Atari's games, place them in cartridges containing the 10NES program, and resell them to Atari. Atari could then market licensees, including Atari, to five new NES games per year. The Nintendo license also prohibited Atari from licensing NES games to other home video games systems for two years from Atari's first sale of the game.

In early 1988, Atari's attorney applied to the Copyright Office for a reproduction of the 10NES program. The application stated that Atari was a defendant in an infringement action and needed a copy of the program for that litigation. Atari falsely alleged that it was a present defendant in a case in the Northern District of California. Atari assured the "Library of Congress that the requested copy [would] be used only in connection with the specified litigation." In fact, no suit existed between the parties until December 1988, when Atari sued Nintendo for antitrust violations and unfair competition. Nintendo filed no infringement action against Atari until November 1989.

After obtaining the 10NES source code from the Copyright Office, Atari again tried to read the object code from pealed chips. Through microscopic examination, Atari's analysts transcribed the 10NES object code into a handwritten representation of zeros and ones. Atari used the information from the Copyright Office to correct errors in this transcription. The Copyright Office copy facilitated Atari's replication of the 10NES object code.

After deciphering the 10NES program, Atari developed its own program -- the Rabbit program -- to unlock the NES. Atari's Rabbit program generates signals indistinguishable from the 10NES program. The Rabbit uses a different microprocessor. The Rabbit chip, for instance, operates faster. Thus, to generate signals recognizable by the 10NES master chip, the Rabbit program must include pauses. Atari also programmed the Rabbit in a different language. Because Atari chose a different microprocessor and programming language, the line by line instructions of the 10NES and Rabbit programs vary. Nonetheless, as the district court found, [in the order granting a preliminary injunction,] the Rabbit program generates signals functionally indistinguishable from the 10NES program. The Rabbit gave Atari access to NES owners without Nintendo's strict license conditions.

975 F.2d at 835-37 (footnote omitted). [redacted material]

### ANALYSIS

In order to withstand a motion for summary judgment, the opposing party must set forth specific facts showing there is a genuine issue of material fact in dispute. Fed.R.Civ.P. 56(e). Those facts must amount to "sufficient evidence favoring the [opposing] party for a jury to return a verdict for that party." *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 249 (1986). In the absence of such facts, "the moving party is entitled to a judgment as a matter of law." *Celotex Corp. v. Catrett*, 477 U.S. 317, 323 (1986).

#### II. COPYRIGHTABILITY OF THE SIGNAL STREAM

Atari has moved for a declaration that the signal stream sent from the cartridge chip to the console chip during the authentication stage does not constitute copyrightable subject matter. As a preliminary matter, Nintendo argues that this issue has been fully adjudicated by this Court's ruling on the preliminary injunction and by the Federal Circuit's decision in *Atari I*. To the extent that prior rulings addressed this issue, the

Court is willing to revisit it because the parties have now presented a more complete record, including memoranda and supporting declarations which focus exclusively on the signal stream issue. In addition, preliminary injunction proceedings involve a lower standard of proof and therefore "findings of fact and conclusions of law made by a court granting a preliminary injunction are not binding at trial on the merits." *University of Texas v. Camenisch*, 451 U.S. 390, 395 (1981).

[1] The proper focus for this motion is on the signal stream itself, rather than on the underlying program instructions that tell the microprocessor when and how to send the signal stream. Nintendo correctly points out that "output" generated by a software program is often granted copyright protection. Cases that grant protection to program output, however, usually arise where the program instructions generate an audiovisual display; copyright protection exists only because the output itself is a proper subject for copyright, not simply because it was generated by a copyrightable software program. *Computer Associates Int'l, Inc. v. Altai, Inc.*, 982 F.2d 693 (2d Cir. 1992) ("If a computer audiovisual work, apart from the literary work that generates it (i.e. the program), the display may be protectable . . . of course, the copyright protection that these displays enjoy extends only so far as their expression is protectable"); *Data East, USA, Inc. v. Epyx, Inc.*, 862 F.2d 204 [ 9 USPQ2d 1322 ] (9th Cir. 1988) (basing analysis on comparison of program output rather than the software code); *Apple Computer, Inc. v. Microsoft Corp.*, 799 F.Supp. 1006 [24 USPQ2d 1081 ] (N.D. Cal. 1992) (same). The fact that the signal stream is program "output" means that while it is not automatically excluded from copyright protection, neither is it automatically entitled to protection. Rather, the analysis must focus on "what" the signal stream is, and then determine whether it falls within one of the statutory categories for copyrightable subject matter.<sup>1</sup>

A proper understanding of the signal stream issue requires some clarification of terminology. Nintendo repeatedly refers to the signal stream as a "data song" and both parties refer to periods of "silence" in the stream. While this language provides some useful metaphors and may even serve as a conceptual aid to understanding the physical processes involved, it does not serve as a substitute for legal analysis. While the signal stream may be "like" a data song in some respects, it is not a "song" when analyzed properly; therefore, calling it a "song" does not instantly make it copyrightable.

At a fundamental level, the signal stream involves the technical process of data communication between two microprocessors. In order for any communication to occur, the output pin on the cartridge chip must be connected to the input pin on the console chip. When the output pin is set to a high voltage, the console chip will read the value on its input pin as a "1" and when the output pin is set to low voltage, the console chip will read the value "0." Timing between the two chips is also a key factor in data communication. Communication occurs only when the console chip is "expecting" to receive data and "looking" at the value on its input pin. Whether the output pin is set high or low matters only at those moments in time when the console chip is reading a value from its input pin. From the perspective of the console chip, the value on the cartridge's output pin is irrelevant at all other times. <sup>2</sup>

The next step in analyzing the copyrightability of the signal stream is to determine *what* is being transferred between the cartridge chip and console chip. At some level, merely electrical pulses are being transferred, but that does not answer the question by itself. All computer software exists as electrical pulses, yet Congress explicitly extended copyright protection to computer software as a literary work. See *Atari I*, 975 F.2d at 838. The question for copyright

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purposes then is whether *what* is being transferred in this case falls within the scope of protection defined by Congress.

17 U.S.C. Section 101 provides that, "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." This Congressional definition indicates that protection for computer programs includes program *instructions*, or the software code that tells the microprocessor what to do, but not program *data* which is stored somewhere in memory and often changes as the program instructions are being executed by the microprocessor. The program *data* is the *result* sought by execution of the program instructions. Thus, the statements that manipulate the data would fall within the statutory definition, while the data that *result* from those calculations would not.<sup>3</sup>

This interpretation of the statutory definition is consistent with basic concepts of copyright law. Program data is nothing more than specific numbers or specific series of numbers. Particularly in light of the Supreme Court's *Feist* decision, which breathed new life into the originality requirement, it is clear that expression which amounts to no more than simple numbers is not copyrightable subject matter. *Feist Publications v. Rural Telephone Service Co.*, 111 S.Ct. 1282, 1289 [18 USPQ2d 1275] (1991) (repudiating "sweat of the brow" theories of protection, reiterating that originality requires more than mere discovery of facts or data, and noting, "Census-takers, for example, do not 'create' the population figures that emerge from their efforts; in a sense, they copy these figures from the world around them . . . Census data therefore do not trigger copyright because these data are not 'original' in the constitutional sense."). See also *Cooling Systems and Flexibles v. Stuart Radiator*, 777 F.2d 485 [228 USPQ 275] (9th Cir. 1985) (finding "very little protectible expression" in a parts catalog because, "Catalogs, by definition, are saturated with facts, numbers, and literal depictions of concrete objects"); *Toro Co. v. R & R Products Co.*, 787 F.2d 1208, 1213 [229 USPQ 282] (8th Cir. 1986) (rejecting copyright protection for part numbers used in a catalog because "appellant's system is composed of arbitrarily assigning to a particular replacement part a random number when appellant creates the part . . . [t]he random and arbitrary use of numbers in the public domain does not evince enough originality to distinguish authorship"); *Gem Products, Inc. v. Robertshaw Controls Co.*, 229 U.S.P.Q. 740 (C.D. Cal. 1986).

After *Feist*, if program data may be copyrighted at all, it is only the context of a substantial computer database and, even then, only if the *arrangement, selection, and coordination* of the data can overcome *Feist's* originality requirements. *Feist*, 111 S.Ct. at 1289. Nintendo's signal stream consists of numbers which are predetermined by the random

"seed" value generated at the beginning of the 10NES program. These numbers work as a "lock" precisely because they are arbitrary and cannot be determined prior to execution of the program; they are not the result of specific "choices as to selection and arrangement" and therefore do not meet *Feist's* originality requirement. *Id.* See also *West Pub. Co. v. Mead Data Central, Inc.*, 799 F.2d 1219, 1228 [230 USPQ 801] (8th Cir. 1986) ("the copyright we recognize here is in West's arrangement, not in its numbering system; MDC's use of West's page numbers is problematic because it infringes West's copyrighted arrangement, not because the numbers themselves are copyrighted"), *cert. denied*, 479 U.S. 1070 (1987); *Corsearch v. Thomson & Thomson*, 792 F.Supp. 305, 322 (S.D.N.Y. 1992) (extending protection to a computer database involving registered trademarks but limiting the scope of the copyright to "internally generated information and to its particular enhancements to the items of information, not to the items of information themselves").

Analyzing *what* is being transferred in the signal stream in light of Section 101 definition leads to the inescapable conclusion that the signal stream is nothing more than program data. At the end of each "hash," the console chip has calculated 30 four-bit numbers. In order to determine that the cartridge is authentic, the console chip must check to see if the cartridge chip calculated the same numbers. It does this by receiving the right-most bit of each number calculated by the cartridge chip,<sup>4</sup> and comparing the bits received to the right-most bit of the numbers it calculated internally during the last "hash." In essence, the console chip is comparing the program data it calculated to the program data calculated by the cartridge chip. If the

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two sets of data match, then game play is allowed.<sup>5</sup>

Nintendo responds by arguing that all computer programs can be represented by object code which is nothing more than binary "1"s and "0"s; therefore, any computer program can be reduced to a single long rational number, thus obscuring the distinction made above. This argument is a classic case of *reductio ad absurdum*. The distinction between program instructions and program data is one that is well-recognized by computer scientists and implicitly acknowledged by Congress in Section 101. Just because all computer code can be represented as binary numbers does not mean that courts cannot intelligently distinguish between binary numbers that act as instructions for the microprocessor and those that act simply as data.

Next, the Court must consider the periods of "silence" in between the transmission of each bit of data. As a theoretical matter, the silence may not be copyrightable subject matter because it is nothing more than the delay between the transmission of each bit of data. While variable silences in a musical composition might be copyrightable, the silence here is simply the necessary timing to ensure proper data communication. As such, it appears to be a "process" within the meaning of 17 U.S.C. Section 102(b) and thus ineligible for protection. One district court has explicitly considered this issue and concluded:

SST also claims copyright protection for the timing of its implementation of the T.30 protocol. This claim, too, fails. Copyright protection for the timing of electronic binary signals is precluded by the copyright laws' exclusion of "any idea, procedure, process,

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system, method of operation, concept, principle, or discovery.” 17 U.S.C. Section 102(b). Timing is nothing more than the process by which electronic signals are created, transmitted, and received.

*Secure Services Technology, Inc. v. Time and Space Processing, Inc.*, 722 F.Supp. 1354, 1363 n.25 [12 USPQ2d 1617 ] (E.D. Va. 1989). This Court agrees.

During oral argument, Nintendo disputed the characterization of these periods as “silences.” Nintendo *argued* that the cartridge is “actively outputting” a series of “0”s with each clock cycle in the microprocessor and that this period is not silent at all, but active output dictated by the 10NES programmer. This description is a technical misnomer. Once the voltage is set to high (“1”) or low (“0”), the output pin *remains in that state* until it receives an instruction changing its state. While, semantically, one could say that the cartridge is “actively outputting” “0”s during the silences, this continuity in the state of the output pin is just a function of the physics of logic circuits and does not change the legal analysis that must be applied to the silences.

The Court does not dispute that the 10NES programmer wrote program code that tells the microprocessor when to change the state of the output pin. Nor does the Court dispute that the 10NES programmer could have instructed the output pin to remain in the low voltage state for a longer or shorter period of time. The focus in analyzing program output, however, is on the output itself, not on the program instructions that create the output. At this stage, it is not clear whether the silences are copyrightable subject matter when viewed in isolation.

The Court need not expressly resolve the status of the silences, for several reasons. First, a ruling that the silences are not copyrightable subject matter does *not* mean that the 10NES program instructions that create the silences are not copyrightable subject matter. This conclusion follows directly from the fact that the copyrightability of program output focuses solely on the output itself. As a result, there may be substantial creative and protectible expression in program instructions, even though the output generated by those instructions are not copyrightable.

Second, and more important, the debate over the copyrightability of the silences may be a red herring in this case. The real significance of the silences is not whether Nintendo can somehow claim a copyright in the silences, but whether Atari can ensue compatibility with *future* NES consoles by copying the *program code* that Nintendo's cartridges currently execute during the silences. In the current version of Nintendo's cartridge, the output pin is set to “0” during the periods of silence. Since the NES console is not checking its input pin during this period, however, it doesn't matter whether the output pin is set to “0” or “1.” Atari is concerned,

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however, that a future NES console could be designed so that it examined its input pin at some point during the current silences. The new NES console would then unlock only if it read a “0” at the proper time. Atari cartridges that did not supply this “0” at the proper time would not unlock the new consoles. Atari therefore argues that it is entitled to set the output pin on its cartridges to the exact same value that Nintendo currently uses in its

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cartridges during the silence to insure that Atari's current cartridges will work with future NES consoles. This theory would allow Atari to copy those portions of the 10NES program code which are necessary to set the output pin in the same manner as Nintendo during the silences.

Copyright law relating to computer software has become increasingly sympathetic to defendants who copy certain portions of code in order to ensure compatibility. *Cf. Sega Enterprises Ltd. v. Accolade, Inc.*, 977 F.2d 1510, 1524 [24 USPQ2d 1561] (9th Cir. 1992) (copyrightable expression does not include elements dictated by "compatibility requirements and industry demands") with *Apple Computer, Inc. v. Franklin Computer Corp.*, 714 F.2d 1240, 1253 [219 USPQ 113] (3rd Cir. 1983) ("Franklin may wish to achieve total compatibility with independently developed application programs written for the Apple II, but that is a commercial and competitive objective which does not enter into the somewhat metaphysical issue of whether particular ideas and expressions have merged."). Nonetheless, nothing in the Ninth Circuit, or any other Circuit, suggests a right to copy to ensure *future* compatibility.

[2] Atari recognizes that it is asking this Court to extend the law in this area. <sup>6</sup>The Court finds no reason to do so. Security systems are just like any other computer program and are not inherently unprotectible. Under *Sega*, the rights to copy portions of program code in a security system must be justified under a fair use analysis. The *Sega* court began this analysis by initially noting that a presumption of unfairness arises from the essentially commercial purpose behind reverse engineering. The court then found that this presumption was rebutted by the public policy benefits that flow from allowing third parties to produce independent games for use on the Sega system. *Sega*, 977 F.2d at 1523.

These public policy benefits also suggest that while copying to achieve present compatibility can be justified under the rubric of fair use, allowing preemptive copying to ensure future compatibility would destroy this delicate balance. Just as public policy favors the proliferation of Nintendo-compatible games, public policy also favors the availability of different game consoles from various manufacturers. Console manufacturers derive significant revenues from license agreements with third-party game developers and these revenues provide a strong incentive to enter the market for new types of game consoles.

By requiring independent game developers to carefully study a particular security system and discern which program instructions are truly necessary for present compatibility, console manufacturers will have a limited period of time in which to control the market for compatible games. In this time period, some third party game developers are likely to enter license agreements with Nintendo, particularly if they have limited resources. After a relatively short period of time, however, other developers will enter the game market with independently produced, but still compatible games. In addition, if third party developers who entered license agreements later find the license agreements too onerous, there still exists the option of reverse engineering the security system after the expiration of their license agreement. Thus, a fair use defense which allows copying for present compatibility balances the incentives for both game developers and console manufacturers.

The extension sought by Atari would destroy this balance by eliminating the console



manufacturers' lead time. If game developers are allowed to copy any portion of code that might be necessary for future compatibility, it will be significantly less time consuming and costly to reverse engineer the security system. Game developers could

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indiscriminately copy broad sections of code which bear minimal relationship to present compatibility, but which could be important in a future security system. As a result, a console manufacturer's lead time would be largely eliminated. The present balance would tip sharply in favor of game developers and could ultimately inhibit the market for new game consoles.

These public policy concerns illustrate only part of the ongoing tension between valid property rights and the competitive structure of the video game market. This Court is unwilling to tamper with the rule set forth in *Sega*, absent further guidance from the Ninth Circuit or Congress.

Finally, the Court must explicitly address a footnote in *Sega* which discusses *Atari I*. Nintendo argues that *Sega* compels a finding that the signal stream is copyrightable because of the following footnote in the amended decision:<sup>7</sup>

We therefore reject Sega's belated suggestion that accolade's incorporation of the code which "unlocks" the Genesis III console is not a fair use. Our decision on this point is entirely consistent with *Atari v. Nintendo*, 975 F.2d 832 [24 USPQ2d 1015 ] (Fed.Cir. 1992). Although *Nintendo* extended copyright protection to Nintendo's 10NES security system, that system consisted of an *original program* which generates an arbitrary data stream "key" which unlocks the NES console. Creativity and originality went into the design of that program. *See id.* at 840. Moreover, the Federal Circuit concluded that there is a "multitude of different ways to generate data stream which unlocks the NES console." *Atari*, 975 F.2d at 839. The circumstances are clearly different here. Sega's key appears to be functional. It consists merely of 20 bytes of initialization code plus the letters S-E-G-A. There is no showing that there is a multitude of different ways to unlock the Genesis III console. Finally, we note that Sega's security code is of such de minimis length that it is probably unprotected under the words and short phrases doctrine. [37 CFR 202.1(a)] 37 C.F.R. Section 202.1(a).

977 F.2d at 1524 n.7 (emphasis in original). This observation by the Ninth Circuit is not dispositive, for several reasons. First, the Ninth Circuit simply cited the Federal Circuit's conclusions regarding creativity and originality. Those conclusions were based solely on the record at the preliminary injunction stage and are not binding at a full adjudication on the merits. Second, nothing in the Court's holding precludes copyright protection for the 10NES *program*, and there is no doubt that creativity and originality went into the 10NES program as a whole.

The Ninth Circuit's observations regarding the existence of a "multitude of different ways" to unlock a particular console does warrant further elaboration, however. Nintendo has presented considerable evidence showing that there are multiple ways to generate a signal stream which will unlock the NES console. Each of the other ways involve sending a different signal during the periods of "silence" when the console chip is not examining the



value on its input pin. This evidence even includes examples generated by Atari during its attempt to develop a compatible cartridge using clean-room techniques. See Nintendo Mem. at 5-7.

The fact that there may be multiple ways to generate a set of data values does not make the data values themselves copyrightable subject matter. It does, however, have important significance in determining whether Atari infringed the 10NES program. The Court's holding that the signal stream itself is not copyrightable limits Nintendo's rights in the 10NES program in only two ways. First, a competitor may copy those portions of the 10NES program *which are necessary to have the cartridge chip send the proper sequence of bits at the proper time to the console chip*, and may include those portions in the *final* version of its own program. This conclusion follows from the premise that those sequence of bits are not copyrightable subject matter. Second, a competitor may make *intermediate* copies of the entire 10NES program in order to determine what those sequence of bits are. <sup>8</sup> *Sega*, 977 F.2d at 1527-28 ("where disassembly is the only way to gain access to the ideas and

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functional elements embodied in a copyrighted computer program and where there is a legitimate reason for seeking such access, disassembly is a fair use of the copyrighted work, as a matter of law").

As a result, Nintendo may still prove infringement by showing that the *final* version of the Atari program is substantially similar to the 10NES program and that those similarities extend beyond those necessary to produce the sequence of bits that will unlock the 10NES console. See *Sega*, 977 F.2d at 1524 (computer programs "contain many logical, structural, and visual display elements that are dictated by the function to be performed, by considerations of efficiency, or by external factors such as *compatibility requirements* and industry demands") (emphasis added). In this analysis, the fact that multiple ways exist to generate the necessary signal stream may provide evidence that Atari copied more than was necessary to achieve compatibility. See *Computer Associates*, 982 F.2d at 706-712 (2d Cir. 1992) (setting forth "filtration" analysis to be applied in this situation). <sup>9</sup> See also *Sega*, 977 F.2d at 1525 (endorsing *Computer Associates* analysis because "in light of the essentially utilitarian nature of computer programs, the Second Circuit's approach is an appropriate one"); *Brown Bag Software v. Symantec Corp.*, 960 F.2d 1465, 1475-76 [ 22 USPQ2d 1429 ] (9th Cir. 1992) (endorsing "analytic dissection" to determine scope of plaintiff's copyright). In addition, Nintendo may prove infringement by showing that the *intermediate* copies made by Atari are not entitled to the fair use privilege outlined in *Sega*.<sup>10</sup>

With respect to the signal stream itself, the Court summarize its holding as follows:

No copyrightable expression exists in:

- (a) the specific data bits which represent data points calculated by each chip;
- (b) the intervening "0" that *must* be sent *at a specified time* before each data bit is sent; and

(c) the timing specifications which dictate precisely when the console chip examines its input pin and consequently when particular data points and intervening "0"s must be sent by the cartridge chip.

The Court further HOLDS that Atari is not automatically entitled to copy the "silences" between the transmission of data bits and intervening "0"s simply for the purpose of ensuring future compatibility.

## II. THE PATENT ISSUES

Atari and Nintendo have each filed motions relating to the '635 patent. The standards for summary judgment in patent cases are no different from any other area of law. *Howes v. Medical Components, Inc.*, 814 F.2d 638, 643 [2 USPQ2d 1271 ] (Fed.Cir. 1987). As in any case, "all doubt respecting the presence or absence of factual issues must be resolved in favor of the party opposing summary judgment." *Id.* In addition, Rule 56 incorporates the relevant burdens of proof so that the Court must take into account the fact that Atari bears the burden of proof on issues related to invalidity while Nintendo bears the burden on issues related to infringement. *Anderson*, 477 U.S. at 254 ("in a ruling on a motion for summary judgment, the judge must view the evidence presented through the prism of the substantive evidentiary burden"). With respect to invalidity, Atari "must overcome the statutory presumption of validity, 35 U.S.C. Section 282, by proving obviousness [or other grounds for invalidity] by clear and convincing evidence based on undisputed facts." *Quad Environmental Technologies Corp. v. Union Sanitary Dist.*, 946 F.2d 870, 872 [20 USPQ2d 1392 ] (Fed.Cir. 1991).

### A. INFRINGEMENT OF CLAIMS 1 AND 12 <sup>11</sup>

Nintendo has moved for a declaration that Atari's accused device infringes Claims 1 and 12 of the '635 patent as a matter of law. Infringement analysis involves a two-step process in which the Court first addresses the legal issue of claim construction and then determines whether the accused device is within the scope of the claim. *Charles Greiner & Co. v. Mari-Med Mfg.*, 962 F.2d

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1031, 1034 [ 22 USPQ2d 1526 ] (Fed.Cir. 1992). The second step is a factual issue and may be resolved on summary judgment only if the Court finds that no reasonable jury could return a verdict for the non-moving party.

#### 1. Claim Construction

It is clear that claim construction is a matter of law; the more difficult question is identifying when a factual dispute relating to claim construction precludes summary judgment. *Intellicall, Inc. v. Phonometrics, Inc.*, 952 F.2d 1384, 1387 [21 USPQ2d 1383 ] (Fed.Cir. 1992) ("Claim interpretation is a question of law amenable to summary judgment, and disagreement over the meaning of a term within a claim does not necessarily create a *genuine* issue of material fact.") (emphasis in original) (citations omitted). While the Federal Circuit has touched on this issue in a variety of contexts, <sup>12</sup>it analyzed the problem

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extensively in *Johnston v. IVAC Corp.*, 885 F.2d 1574 [12 USPQ2d 1382] (Fed.Cir. 1989) and set forth the following guidelines:

Where, as here, no underlying fact issue must be resolved, claim interpretation is a question of law. Thus, a mere dispute over the meaning of a term does not itself create an issue of fact. This is true even where the meaning cannot be determined without resort to the specification, the prosecution history or other extrinsic evidence provided upon consideration of the entirety of such evidence the court concludes that there is no genuine underlying issue of material fact . . . A disputed issue of fact may, of course, arise in connection with interpretation of a term in a claim if there is a *genuine evidentiary conflict* created by the underlying probative evidence pertinent to the claim's interpretation. However, without such evidentiary conflict, claim interpretation may be resolved as an issue of law by the court on summary judgment taking into account the specification, prosecution history or other evidence . . . *Conflicting opinions on the meaning of a term which are merely conclusory do not create such evidentiary conflict.*

885 F.2d at 1579-1580 (emphasis added) (citations omitted).

With these considerations in mind, the Court begins by examining the language of claims 1 and 12. The two claims read as follows:

1. A system for determining whether a videographics software program is authorized for use in an information processing apparatus, comprising:

a. a main data processor unit for executing a videographics software program;

an external memory for storing the videographics software program and for removable connection to said main processor unit, said external memory and main processor unit together constituting the information processing apparatus for executing the videographics software program;

a first authenticating processor device associated with said external memory for executing a first predetermined authenticating program to determine the authenticity of said external memory;

a second authenticating processor device which is installed in said main data processor unit for executing a second predetermined authenticating program to determine the authenticity of said external memory; and

control means for resetting said main data processor unit unless the execution of said first authenticating program by said first processor device exhibits a predetermined relationship to the execution of said second authenticating program by said second processor device.

12. A system for determining whether a videographics software program is authorized for use in an information processing apparatus comprising:

a main data processor unit having a reset control;

an external memory unit which is removably connected to said main data processor unit to form the informational processing apparatus, said external memory unit storing the software program for controlling processing by said main data processor unit;

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a first microprocessor mounted with said external memory unit and having a stored authenticating program for execution by said first microprocessor;

a second microprocessor mounted in said main data processor unit and having a stored authenticating program for execution by said second microprocessor, said second microprocessor cooperating with said first microprocessor in accordance with said stored authenticating programs to determine whether said external memory unit is authorized; and

control means for resetting said reset control said main data processor unit unless said first and second microprocessor determine by the results of the executions

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of the authenticating programs that said external memory unit is authorized.

The crux of the dispute between Atari and Nintendo revolves around whether these claims can be interpreted to cover a security system in which the data sent from the cartridge to the console differs in some way from the data sent from the console to the cartridge. Atari contends that this arrangement is a key feature present in both its accused device <sup>13</sup> and in the commercial embodiment of Nintendo's device but that it is neither disclosed nor claimed by the '635 patent. <sup>14</sup>In Atari's view, the '635 patent discloses only an inferior system in which the console and cartridge exchange *identical* data, thereby allowing the chip in the console to be fooled by simply connecting its output pin back into its input pin. Atari terms this approach a "mirroring" attack because an "authentic" cartridge chip can be made by simply having it take whatever data it receives from the console chip and then having it immediately return that data back to the console. In essence, Atari is claiming that the scope of the '635 patent does not cover the actual NES console marketed by Nintendo and, since the accused device is a combination of that console and an Atari cartridge, there can be no infringement.

Atari urges that the scope of the claims are expressly limited by 35 U.S.C. Section 112, see *Valmont Industries, Inc. v. Reinke Mfg. Co., Inc.*, 983 F.2d 1039 [25 USPQ2d 1451] (Fed.Cir. 1993), but only a small portion of claims 1 and 12 use "means-plus-function" language; therefore, the claim is best viewed as a mixed apparatus and means-plus-function claim. *Johnston*, 885 F.2d at 1580 ("That part of a claim contains means-plus-function language does not make section 112 Para. 6 applicable to the entirety of the claim."). The only means-plus-function language in the claims is a reference to "control means for resetting . . ." while the critical language for this motion are the references to the operation of the "authenticating programs" which occur throughout the claim. Because some of the critical references do occur in the same paragraph as the "control means" language, the Court must determine how much of the last paragraph in each claim is subject to Section 112 Para. 6 analysis.

Section 112 Para. 6 itself provides a good starting point for this analysis:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure,

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material, or acts described in *the specification* and equivalents thereof.

(emphasis added). Thus, the specification itself limits the meaning of “control means.” *Valmont*, 983 F.2d at 1042 (“The applicant must describe in the patent specification some structure which performs the specified function.”). Examining the specification, the Court finds that the “control means” consists of two main elements:

(1) Physical components consisting of “A reset switch 36 [which] is connected to the rest terminal R of the semiconductor device 30 (lock). A reset capacitor 38 [which] is further connected to the reset terminal in parallel with the reset switch 36.” ‘635 patent, Col. 3, lines 37-41.

(2) A software program “for controlling reset or release of reset of the main unit 12 based on the results of the comparison and determination program routines.” ‘635 patent, Col. 4, lines 36-39.

What emerges from this language is the concept that the “control means” operates after the authenticating programs, (i.e. the comparison and determination program routines) have *completed* their analysis and have decided whether to allow game play. Only once that decision is reached by the authenticating program is the control means invoked to release the console from the reset state. Indeed, this interpretation is consistent with the language of the claims. Claim 1 refers to “control means for resetting said main data processor unit *unless the execution of said first authenticating program . . .*,” indicating that the *execution* of the authenticating programs is not a *part* of the control means but rather something that determines when the control means is invoked. Similarly, claim 12 refers to “control means for resetting said reset control of said main data processor unit unless said first and second microprocessors *determine by the results of the executions of*

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*the authenticating*

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programs , ” again indicating that the actual operation of the authenticating programs is not part of the control means.

This motion essentially presents a dispute over whether the claim language covers the *operation* of the authenticating programs as currently implemented to avoid a “mirroring attack.” The above analysis indicates that while Section 112 Para. 6 may govern issues relating specifically to how the “control means” operates, it has no bearing on disputes involving the operation of the authenticating programs themselves. The Court must therefore use traditional claim construction tools to resolve this motion.

In construing the meaning and scope of a particular claim, “it is necessary to examine closely the language of the claim, the specification, and the prosecution history.” *Lemelson v. General Mills, Inc.*, 968 F.2d 1202, 1206 [23 USPQ2d 1284 ] (Fed.Cir. 1992), *cert. denied*, 113 S.Ct. 976 (1993). Since neither party has raised issues relating to prosecution history, the Court will rely solely on the language of the claim and the specification.

[3] In examining the language of the claims, the Court places little reliance on the expert testimony presented. Each party submitted deposition excerpts from their own experts, as well as selective quotations from their opponents' experts, which they rely upon to establish their interpretation of the claims. "Predetermined relationship" is not an inherently technical term, nor is it a term of art in the computer science field. Expert testimony is therefore not necessary for the Court to interpret the meaning of "predetermined relationship" as it is used in the patent claim. *See id.* (comparing claim construction to contract interpretation).  
15 Moreover, conflicting expert testimony on the meaning of a non-technical term does not create the type of factual dispute necessary to preclude summary judgment on this issue of law. *Johnston*, 885 F.2d at 1580 ("Conflicting opinions on the meaning of a term which are merely conclusory do not create such evidentiary conflict" as to preclude summary judgment).

With respect to claim 1, the key language controlling the scope of the claim reads as follows:

control means for resetting said main data processor unit unless the execution of said first authenticating program by said first processor device exhibits a *predetermined relationship* to the execution of said second authenticating program by said second processor device

(emphasis added). Atari asserts that the language "predetermined relationship" means that data sent from the cartridge to the console must bear some predetermined relationship to the data sent from the console to the cartridge. Nintendo responds by arguing that the "predetermined relationship" refers only to the *execution* of the two authenticating programs and not to the data being exchanged at all. At first glance, the language "predetermined relationship" appears to connect the clause starting with "execution of said first authenticating program" to the clause starting with "execution of said second authenticating program," implying that the relationship is simply between execution of the programs. In addition, nothing in the claim language refers to "data" at all, thus lending further credence to Nintendo's position.

The problem that arises, however, is that a "predetermined relationship" between the "execution" of programs is not a statement that makes sense on its face. There may be a "relationship" between functions performed by two programs, or a "relationship" between *results* calculated by two programs, or even a "relationship" in the concepts embodied in two programs; but the idea of a relationship between "execution" of two programs is not a concept whose meaning is readily apparent. In fact, Nintendo's own examples illustrate the ambiguity inherent in this language. Nintendo argues that since "predetermined relationship" refers only to execution of the programs, the claim would cover one-way authentication in which data is sent *only* from the cartridge to the console and that "will suffice to permit the determination of whether there is a 'predetermined relationship' " between the "two authenticating programs executions." Nintendo's Mem. of Pts. & Auth. at 8. Semantics aside, what Nintendo has described is a situation in which the console chip has received data from the cartridge chip and then compared this data *to data it calculated internally*. The microprocessor's conclusion that a relationship exists between the "two

program authenticating programs execution" is nothing more than an analysis of whether the data transmitted by the cartridge has the proper relationship *to the data internally calculated by the console* . In essence, Nintendo's example illustrates a predetermined relationship between data and not between "execution of the authenticating programs."

Since the words "predetermined relationship" are not used in a manner that is

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unambiguous on its face, the Court must treat the inventor as his own lexicographer. "[W]here an inventor chooses to be his own lexicographer and to give terms uncommon meanings, he must set out his uncommon definition in some manner in the patent disclosure." *Intellicall*, 952 F.2d at 1388. See also *Hormone Research Foundation v. Genentech, Inc.*, 904 F.2d 1558, 1563 [14 USPQ2d 1039] (Fed.Cir. 1990) ("It is a well established axiom in patent law that a patentee is free to be his or her own lexicographer, and thus may use terms in a manner contrary to or inconsistent with one or more of their ordinary meanings. For this reason, an analysis of the specification and prosecution history is important to proper claim construction."), cert. dismissed, 111 S.Ct. 1434 (1991).

There are numerous indications in the specification that the necessary "predetermined relationship" refers to a comparison of *data* calculated by the chips. Starting with the preferred embodiment of the invention, the specification describes a system in which, "the lock digital processing device compares the *result* of its processing with the *result* of the synchronous processing by the key device." '635, col. 2, lines 8-10 (emphasis added). Similarly, Figures 5, 6A, & 7A are flowcharts which include "compare *results* of operation" as a key step in deciding whether to allow game play while Figure 6B includes a step "compare both *data* " as its key decision point. This emphasis on comparing *results* of the internal calculations is further supported by the abstract which summarizes this part of the invention:

. . . The semiconductor associated with the external memory device acts as a key device and the duplicate device mounted in the main unit acts as a lock device. The key device and the lock device are synchronized with each other executing the same *arithmetic* operation according to the same program. The *results* of these operations are *exchanged between devices*, and *compared*. If the *results* agree . . .

(emphasis added). Finally, additional references to comparison of the *results* of the arithmetic operations occur throughout the explanatory text of the specification. '635 patent, col. 5, lines 55-64; col. 7, lines 22-31; col. 7, lines 64-68; col. 8, lines 17-28.

The Court recognizes that "where a specification does not *require* a limitation, that limitation should not be read from the specification into the claims." *Intel Corp. v. U.S. Int'l Trade Comm.*, 946 F.2d 821, 836 [20 USPQ2d 1161] (Fed.Cir. 1991) (emphasis in original) (citation omitted). The Court is not using the specification to add a limitation to the claim; rather, the Court is using the specification to explain what the inventor meant by the term, "predetermined relationship." Holding the inventor to the definition he chose at the time he drafted the specification leads to the conclusion that "predetermined relationship" means a relationship between the data exchanged by the programs. The Court therefore holds as a matter of law that claim 1 requires a predetermined relationship between the



data exchanged by the programs.<sup>16</sup>

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With respect to claim 12, the Court reaches the same result, although through somewhat different reasoning. Claim 12 does not include the specific language regarding "predetermined relationship."<sup>17</sup> It does include language in which the control means allows game play only if "said first *and* second microprocessors *determine by the results* of the executions of the authenticating programs . . ." (emphasis added).<sup>18</sup> To "determine by the results" whether the cartridge is authentic, the processors must exchange and compare the data calculated by the authenticating programs. The very idea of comparing two sets of data and then making a decision based on that comparison implies that the decision must be based on whether an expected relationship exists between the two sets of data being compared. Since the processors must have some criteria for making their comparison of the two sets of data, a predetermined relationship between the data must exist.

Most important, this interpretation of claim 12 is the only one consistent with the specification. As explained with respect to claim 1, nothing in the specification suggest an implementation of the invention in which unrelated data is exchanged. The Court therefore holds that claim 12, as a matter of law, also requires some predetermined relationship between the data being exchanged.

## 2. Infringement

Having determined the scope of claims 1 and 12, the Court must now determine whether the accused device "embod [ies] exactly each claim limitation or its equivalent." *Charles Greiner*, 962 F.2d at 1034. This determination is an issue of fact and the Court may grant summary judgment only if it finds that no reasonable jury could find that the claim limitations are not met. *Id.* at 1034-35.

As a preliminary matter, the Court notes that Atari's liability must be based on contributory infringement, rather than direct infringement. Atari markets only the game cartridge and not the console; therefore, the accused device does not have "a second authenticating processor device" or "a second microprocessor mounted in said main data processor unit." Because Atari has not identified any uses for its accused device other than in connection with the NES console, the distinction between contributory and direct infringement does not affect the infringement analysis. The Court may therefore proceed with the infringement analysis by considering the accused device as used in combination with the NES console.

The sole limitation at issue is whether the data sent by the accused device to the console bears a predetermined relationship to the data sent by the console to the accused device. "Predetermined relationship" does not mean that the data sets must be identical.<sup>19</sup> In fact, predetermined relationship would cover any predictable relationship between data. In this case, the cartridge sends one of sixteen predetermined sets of data to the console each time the program is executed. Simultaneously, the console sends one



specific predetermined set of data to the cartridge. This set is identical every time the program is executed, with the caveat that the particular subset of bits actually transmitted during successive iterations of the exchange and authenticate stage will be different each time the program is executed. <sup>20</sup>Nonetheless, the data do bear a predetermined relationship. Since the starting values in the master bank are always the same, and the same mathematical transformations are applied to the master bank as are applied to the slave bank, it is possible to start with the master bank and calculate what values will be in the slave bank for any given random seed. This calculation reveals the predetermined relationship between the data sent in each direction. Since all that predetermined relationship requires in some way to correlate, compare, or predict the data sent in each direction, the above described calculation suffices.

[4] Based on the above description of the accused device, no reasonable jury could find that the bits exchanged do not bear some predetermined relationship to each other. The Court therefore GRANTS Nintendo's Motion for Summary Judgment and FINDS that the accused device infringes claims 1 and 12 of the '635 patent as a matter of law.

#### B. PATENT INVALIDITY BASED ON THE WRITTEN DESCRIPTION REQUIREMENT

Atari contends that the '635 patent is invalid because the claims, as construed by Nintendo, are not supported by the written description. The relevant section of 35 U.S.C. Section 112 provides:

[t]he specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full clear, concise and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Atari is not challenging the adequacy of the disclosures relating to enablement and best mode, but rather argues that the patent describes only an invention in which "identical" data is exchanged while Nintendo is asserting that the patent covers a system in which "different" data is exchanged. Nintendo initially responds that this aspect of the written description requirement applies only to situations in which the inventor files an amended claim. In that situation, the inventor can get the benefit of the original application's filing date only by showing that the subject matter of the amended claim is adequately described by the specification in the original patent application. See *In re Wright*, 866 F.2d 422, 424 [ 9 USPQ2d 1649 ] (Fed.Cir. 1989) ("When the scope of a claim has been changed by amendment in such a way as to justify an assertion that it is directed to a *different invention* than was the original claim, it is proper to inquire whether the newly claimed subject matter was *described* in the patent application when filed") (emphasis in original); D. Chisum, *Patents*, Section 7.04 at 7-96 (1993).

Atari admits that past cases have applied the written description requirement in this narrow context, but contends that no case says the requirement should not be applied in other

contexts. In addition, Atari argues that the basic policies behind the written description requirement indicate that it should be applied to this situation:

The purpose of the "written description" requirement is broader than to merely explain how to "make and use"; the applicant must also convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention.

*Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64 [ 19 USPQ2d 1111] (Fed.Cir. 1991) (emphasis in original).

[5] The Court finds that no written description issue is presented in this case. Atari's argument is actually a disguised "best mode" argument, which is rarely sustainable at the summary judgment stage. The real issue in written description cases is whether the claims are entitled to the benefit of the application's original filing date. Even in *Vas-Cath*, the written description issue arose because the claims would have been invalidated by an anticipating prior art if they were not entitled to a filing date that predated the prior art. *Id.* at 1560. Similarly, in *Fiers v. Revel*, 984 F.2d 1164 [25 USPQ2d 1601] (Fed.Cir. 1993), the case most cited by Atari, the issue was whether the inventor was entitled to the benefit of an earlier-filed Israeli patent, for the purpose of determining priority between two inventors. In contrast, this case presents no issues implicating the filing date of the original application. Even if the claims were denied the benefit of the original filing date, Atari has failed to show why that would be significant. Nor has Atari raised any additional prior art which could be used to invalidate the patent

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if it were denied the original application date.

No court has applied the written description requirement in the way sought by Atari and this Court declines Atari's invitation to be the first to do so. Atari may have legitimate issues relating to best mode, but that defense cannot be addressed by summary judgment. The Court therefore DENIES Atari's Motion for Summary Judgment based on the written description requirement.

#### C. ANTICIPATION AND OBVIOUSNESS BASED ON THE ROE PATENT

Nintendo has filed a motion to dismiss Atari's anticipation and obviousness defense based on U.S. Patent No. 4,736,419 ("the Roe Patent"). Roe discloses "an electronic lock system having a data encryption key physically and electronically protected from identification for protecting electronic equipment from use by unauthorized personnel." Roe Patent, abstract. The patent description also notes, "this lock system may be used in video game hardware, personal computers, and the like to prevent use of copied or 'pirated' software programs." Roe Patent, col. 2, lines 26-28. While Roe is plainly relevant prior art, Nintendo argues that Roe can neither anticipate nor render the '635 obvious because it fails to disclose: (1) the control means for resetting; and (2) the use of an authenticating "processor" as opposed to hard-wire circuits.

## 1. Standard for Anticipation

Anticipation is an issue of fact. *Scripps Clinic* , 927 F.2d at 1576. The Federal Circuit has made clear that the standard for anticipation is fairly strict:

Invalidity for anticipation requires that all of the elements and limitations of the claim are found within a single prior art reference . . . There must be no difference between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the field of the invention . . . The role of extrinsic evidence is to educate the decision-maker to what the reference meant to persons of ordinary skill in the art, not to fill gaps in the reference.

*Id* . (citations omitted). Primarily at issue in this motion is the doctrine of "inherency" which allows "modest flexibility . . . [in] situations where the common knowledge of technologists is not recorded in the reference; that is where technological facts are known to those in the field of the invention, albeit not known to judges." *Continental Can Co. USA, Inc. v. Monsanto Co.* , 948 F.2d 1264, 1269 [20 USPQ2d 1746 ] (Fed.Cir. 1991). *See also Standard Havens Products, Inc. v. Gencor Industries, Inc.* , 953 F.2d 1360, 1363 [21 USPQ2d 1321 ] (Fed.Cir. 1991) ("An anticipatory reference, however, need not duplicate word for word what is in the claims. Anticipation can occur when a claimed limitation is 'inherent' or otherwise implicit in the relevant reference."), *cert. denied* , 113 S.Ct. 60 (1992). Even under an inherency theory, however, Atari's burden of proof remains high. *Continental Can* , 948 F.2d at 1268 (Evidence of inherency "must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill.").

## 2. Standard for Obviousness

While the ultimate conclusion of obviousness is a question of law, "it is based upon underlying factual inquiries which are issues for the trier of fact." *Modine Mfg. Co. v. Allen Group, Inc.* , 917 F.2d 538, 541 [ 16 USPQ2d 1622] (Fed.Cir. 1990), *cert. denied* , 111 S.Ct. 2017 (1991). The Federal Circuit has indicated that the following factual inquiries must be addressed when determining obviousness:

- (1) the scope and content of the prior art,
- (2) the differences between the most pertinent prior art and the claimed invention,
- (3) the level of ordinary skill in the art, and
- (4) the objective evidence of secondary considerations of nonobviousness.

*Id.* *See also Jurgens v. McKasy* , 927 F.2d 1552, 1558 [18 USPQ2d 1031 ] (Fed.Cir. 1991) ("Nonobviousness is a conclusion of law based upon the factual underpinnings stated in *Graham v. John Deere Co.* , 383 U.S. 1, 86 S.Ct. 684, 15 L.Ed. 2d [148 USPQ 459 ] (1966)"), *cert. denied* , 112 S.Ct. 281 (1991). Summary judgment is inappropriate if the Court cannot reach these factual inquiries without resolving genuinely disputed issues of material facts.<sup>21</sup>

[6] The parties generally dispute the standard that governs when two prior art

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references may be combined for the purpose of proving obviousness. It is clear that references may be combined "only if there is some suggestion or incentive to do so." *ACS Hospital Systems, Inc. v. Monterfiore Hospital*, 732 F.2d 1572, 1577 [221 USPQ 929] (Fed.Cir. 1984) (emphasis in original). What this standard means in practice is less clear, since the suggestion to combine need not be explicit. *In re Nilssen*, 851 F.2d 1401, 1403 [7 USPQ2d 1500] (Fed.Cir. 1988) ("those references need not explicitly suggest combining teachings, much less specific references"). Most important for the purposes of this motion, whether a suggestion to combine is legally sufficient depends on the ordinary skill in the art, and thus is difficult to resolve until a jury has answered the factual inquiries set forth in *Graham*. See *In re Jones*, 958 F.2d 347, 351 [21 USPQ2d 1941] (Fed.Cir. 1992) (there must be some suggestion to combine, "either in the references themselves or in the knowledge generally available to one of ordinary skill in the art") (emphasis added); *In re Gorman*, 933 F.2d 982, 986-87 [18 USPQ2d 1885] (Fed.Cir. 1991) ("The extent to which such suggestion must be explicit in, or may be fairly inferred from, the references, is decided on the facts of each case, in light of the prior art and its relationship to the applicant's invention.").

### 3. Control Means for Resetting

#### i. Anticipation

[7] The Roe patent discloses an electronic security system which generates an output signal "indicative of a locked condition thereby preventing unauthorized use of the subtending electronic equipment." Roe patent, Col. 4, lines 11-15. According to Figure 1, this signal is transmitted on an output line labelled, "Lock Status Output Signal." In the '635 patent, unauthorized use is prevented by outputting "the reset signals RESET 1 and RESET 2, and accordingly, the reset states of the key device 34 and the main unit 12 are continued. The operator cannot play the game in this reset state." '635, col. 5 line 67--col. 6, line 2. Atari argues that this lock status signal inherently discloses the reset feature because reset lines have been common features in microprocessors for years. The problem with this theory is that anticipation requires more than common knowledge in the field; Atari must also show that the lock status signal "necessarily" implies the use of a reset pin. *Continental Can*, 948 F.2d at 1269 ("The mere fact that a certain thing may result from a given set of circumstances is not sufficient.") (emphasis in original) (citation omitted). While use of the reset pin is one way to disable a microprocessor, other ways to disable a microprocessor exist, indicating that the use of the reset pin is not necessarily implicit in the idea of a lock status output signal. See Decl. of Jeffrey H. Nelson, App. C, Crocker Depo. at 115. In light of Atari's burden of producing clear and convincing evidence., <sup>22</sup>the Court finds that no reasonable jury could find that the lock status signal inherently discloses or anticipates the use of a reset pin. The Court therefore FINDS as a matter of law that Roe does not anticipate the use of a rest pin.

ii. Obviousness

Atari has produced at least one prior art reference which, when combined with Roe, is sufficient to defeat summary judgment with respect to obviousness. Atari contends that the Famicom home computer system ("Famicom"), which was designed in part by the inventor of the '635 patent, used the reset pin for the main microprocessor but without any control for unauthorized cartridges. Atari contends when this reset feature is combined with the security system disclosed in Roe, the use of the reset pin to disable the microprocessor becomes obvious.

As a preliminary matter, Nintendo responds that Famicom may not be combined with Roe because there is no suggestion to combine them in either reference. As discussed above, an explicit suggestion to combine is not required, and the Roe patent does indicate that "this lock system may be used in video game hardware, personal computers, and the like to prevent the use of copied

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or "pirated" software programs." Roe patent, col. 2, lines 26-28. While this reference does not say "this system could be used with the Famicom home computer system," it certainly provides a strong suggestion that it could be combined with other references relating to video games. Indeed, the Federal Circuit has *affirmed* a district court decision that granted summary judgment for the *defendant* when the suggestion to combine was even weaker than that presented by the above statement in Roe. In *Ryko Mfg. Co. v. Nu-Star, Inc.*, 950 F.2d 714 [ 21 USPQ2d 1053 ] (Fed.Cir. 1991), the Federal Circuit found the following set of references sufficient to establish obviousness, even without an explicit suggestion to combine:

The district court found that the prior art taught one to use an electrical keypad device to send a signal, which, if proper, would activate a powered system by closing a switch to enable electrical current to flow to the system (e.g. an electronic garage door opener). The prior art also taught that automatic car wash systems could be activated by mechanical insertion devices.

The principal difference between the prior art and the claimed invention is the use of an electronic keypad device, instead of the mechanical insertion device, for the specific purpose of selectively activating an automatic car wash system. We agree with the district court that the desirability of the claimed combination was suggested by the prior art.

*Id.* at 720.

[8] The suggestion in Roe that Roe be used in video games to prevent the use of unauthorized software is sufficient by itself to preclude summary judgment for Nintendo. The Famicom system was the predecessor to the current NES, but lacked a security system. An inventor confronting the problem of how to prevent unauthorized game cartridges from being used in its video game console would certainly consider a prior art reference which explicitly suggested that it could be used in video games to prevent the use of pirated

software. *Wright* , 848 F.2d at 1219 (Fed.Cir. 1988) ("Thus the question is whether what the inventor did would have been obvious to one of ordinary skill in the art *attempting to solve the problem upon which the inventor was working* .") (emphasis added); *Cable Electric Products, Inc. v. Genmark, Inc.* , 770 F.2d 1015, 1025 [226 USPQ 881 ] (Fed.Cir. 1985) ("In evaluating obviousness, the hypothetical person of ordinary skill in the pertinent art is presumed to have the ability to select and utilize knowledge from other arts reasonably pertinent to the particular problem to which the claimed invention is directed") (citation and quotation omitted). The Court therefore FINDS that Nintendo has not shown that, as a matter of law, the use of the reset feature in the '635 patent is nonobvious in light of Roe and Famicom.<sup>23</sup>

Based on the evidence presented in the motion, the Court must also consider whether the combination of Roe and Famicom are sufficient to justify summary judgment in *Atari's* favor. <sup>24</sup>The parties have not presented any specific evidence of the level of ordinary skill in the art, one of the *Graham* factual predicates for finding obviousness. In addition, while it appears that the Famicom system used the reset feature of the main microprocessor, neither side has presented evidence regarding how it was used, or the purpose it served in the Famicom system. In the NES console, the reset feature is used to hold the microprocessor in a disabled state if authentication fails. The use of the reset pin in Famicom may be for a somewhat different purpose, and a minor but technologically significant difference in the way the reset feature is used in the '635 may be sufficient to make the invention nonobvious even when Roe and Famicom are combined. *See Intel* , 946 F.2d at 835 (minor advance may still be nonobvious); *Northern Telecom, Inc. v. Datapoint Corp.*, 908 F.2d 931, 935 [ 15 USPQ2d 1321 ] (Fed.Cir. 1990) ("Whether the changes from the prior art are 'minor', as Datapoint argues, must be evaluated in terms of the whole invention, including whether the prior art provides any teaching or suggestion <sup>25</sup> to one of ordinary skill in the art to make the changes that would produce the patentee's method and device."), cert denied , 498 U.S. 920 (1990). As a result, the current record does not support summary judgment in Atari's favor.

#### 4. Authenticating Processors

##### i. Anticipation

Roe generally describes the use of a hard-wired circuit for its security system, and Nintendo contends that replacing the hard-wired circuit with a general purpose microprocessor and stored software program is not taught by Roe. Atari responds that Roe makes reference to the Data Encryption Standard ("DES") which is a widely used encryption algorithm adopted by the U.S. Government and that this reference teaches the use of microprocessors. Specifically, Roe notes, "A data encryption algorithm suitable for use in this illustrative embodiment of the invention is described in Federal Information Processing Standards Publication 46, Jan. 15, 1977, entitled 'Data Encryption Standard.' " Roe patent, col. 2, lines 37-41. The Government publication, FIPS 46, is publicly available and explains that the DES algorithm may be implemented in several ways, including "Microprocessors using Read

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Only Memory (ROM) or microprogrammed devices using microcode.” Decl. of John B. Sganga, Exh. 3, FIPS 46 at 2. Atari contends that the reference to FIPS 46 in Roe is sufficient to incorporate the teaching about the use of microprocessors into the Roe disclosure itself and that Roe therefore anticipates the use of microprocessors.

Nintendo correctly points out that Atari has stretched the doctrine of incorporation by reference too far. Even the case relied upon by Atari, *In re Saunders*, 444 F.2d 599 [170 USPQ 213 ] (C.C.P.A. 1971), makes clear that anticipation could be found only if Roe referred explicitly to the part of the FIPS 46 document that teaches the use of microprocessors. *Id* at 602. The reference to FIPS 46 in Roe is meant simply to identify a “suitable data encryption algorithm,” not to describe the physical circuits that could be used in the security system. To discover that FIPS 46 teaches the use of microprocessors, an inventor would have to read more than the section of FIPS 46 which describes the DES algorithm. Since Atari's anticipation theory requires the use of a part of the FIPS 46 document which is “not clearly referred to” by the prior art patent, Atari again is presenting an argument for obviousness, rather than anticipation. *Id.* 26The Court therefore FINDS, as a matter of law, that Roe does not anticipate the use of microprocessors for the security system.

### ii. Obviousness

For some inexplicable reason, neither party has addressed whether the use of microprocessors is obvious in light of Roe and FIPS 46. Nintendo notes in its Reply Brief 27 that the proper inquiry for the FIPS 46 disclosure is obviousness, but fails to address FIPS 46 in the section of its brief dealing with obviousness. While Atari ultimately bears the burden of proving obviousness, Nintendo bears the burden of proving, in this motion, that it is entitled to judgment as a matter of law. It has not done so; Nintendo's Motion to dismiss Atari's obviousness defense in light of Roe and FIPS 46 is DENIED.

### D. FAMICOM HOME COMPUTER AND ON-SALE BAR

Atari has moved for a determination that the “Famicom home computer system” was in public use or on sale in the United States more than one year prior to the filing date of the '635 patent. Nintendo is willing to stipulate to the fact that the Famicom system was in public use or on sale prior to December 23, 1984. Nintendo expressly reserves the right to dispute all other issues relating to the Famicom system, including whether it anticipates the '635, whether it renders the '635 obvious, and whether it is even material or relevant prior art for the purposes of 35 U.S.C. Section 102(b). Since Atari's motion was narrowly framed as addressing solely the issue of whether the Famicom system was actually in public use or on sale before December 23, 1984, and did not raise any issues relating to anticipation, obviousness, or relevancy, the Court FINDS that the following fact is not substantially disputed:

(1) The Famicom home computer system was in public use or on sale in the United States prior to December 23, 1984.

## CONCLUSION

For the reasons set forth above the Court issues the following orders:



(1) The Court GRANTS Atari's Motion for Summary Adjudication (Copyright) *in part* and DENIES it in part. The Court HOLDS that no copyrightable expression exists in:

(a) the specific data bits which represent data points calculated by each chip;

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(b) the intervening "0" that *must* be sent *at a specified time* before each data bit is sent; and

(c) the timing specifications which dictate precisely when the console chip examines its input pin and consequently when particular data points and intervening "0"s must be sent by the cartridge chip.

The Court further HOLDS that Atari is not automatically entitled to copy the "silences" between the transmission of data bits and intervening "0"s simply for the purpose of ensuring future compatibility.

(2) The Court GRANTS Nintendo's Motion with respect to Patent Infringement of claims 1 and 12. In addition, the Court issues the following claim construction as a matter of law: "Where two-way communication is used, the language 'predetermined relationship' means that there must be a predetermined relationship between the *data* sent from the cartridge to the console and the data sent from the console to the cartridge."

(3) The Court DENIES Atari's Motion for Summary Judgment of Invalidity based on the written description requirement.

(4) The Court GRANTS Nintendo's Motion to dismiss the anticipation defense based on the Roe patent, but DENIES Nintendo's Motion with respect to the obviousness defense.

(5) The Court FINDS that the Famicom Home Computer System was on sale or in public use in the United States prior to December 23, 1984.

(6) The Court SETS a preliminary pre-trial conference by telephone in this matter for May 24, 1993 at 2:30 p.m. The agenda for that pre-trial conference will be discussed at the hearing on the remaining copyright motion set for May 13, 1993.

SO ORDERED. *Order Granting Summary Judgment of Copyright Infringement*

**May 18, 1993**

Nintendo of America ("Nintendo") has filed this Motion for Summary Judgment of Copyright Infringement. Nintendo seeks a declaration that Atari Games Corporation's and Tengen's (collectively, "Atari") Rabbit program infringes Nintendo's 10NES program. For the reasons set forth below, the Court GRANTS the Motion for Summary Judgment.

## **BACKGROUND**



The factual background for this motion was well-described by the Federal Circuit in *Atari Games Corp. v. Nintendo of America, Inc.*, 975 F.2d 832 [24 USPQ2d 1015] (Fed.Cir. 1992) ("*Atari I*"). In addition, this Court set forth a detailed technical description of the 10NES program in its Order Re: Copyright and Patent Motions, dated April 15, 1993 ("Copyright/Patent Order"). That description will not be repeated here, but will be incorporated by reference where necessary.

### **ANALYSIS**

#### **I. The Court's Prior Holding**

The Court's Copyright/Patent Order addressed the copyrightability of the signal stream sent from the cartridge chip to the console chip and made three holdings which form the starting point for the current summary judgment motion:

With respect to the signal stream itself, the Court summarizes its holding as follows:

No copyrightable expression exists in:

- (a) the specific data bits which represent data points calculated by each chip;
- (b) the intervening "0" that *must* be sent *at a specified time* before each data bit is sent; and
- (c) the timing specifications which dictate precisely when the console chip examines its input pin and consequently when particular data points and intervening "0"s must be sent by the cartridge chip.

The Court further HOLDS that Atari is not automatically entitled to copy the "silences" between the transmission of data bits and intervening "0"s simply for the purpose of ensuring future compatibility.

Copyright/Patent Order at 29-30.

In their briefs on the current motion, both parties have requested the Court to reconsider portions of that holding. Nintendo contends that the Court's analysis of the signal stream "represents a radical departure from existing case law" and is not necessary to resolve Nintendo's copyright claims. Nintendo asks the Court to vacate its prior ruling.

The Court declines Nintendo's invitation. Nintendo raises no arguments which were not previously raised to the Court. To the extent Nintendo has moved for *reconsideration* of the Court's prior holding, that motion is DENIED. <sup>1</sup>

Atari has asked the Court to revisit its holding regarding future compatibility. Atari presents stories of Nintendo competitors who were allegedly driven out of the market by deliberate changes to the Nintendo console. <sup>2</sup>As the Court explained in its prior order, the

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Court is unwilling to create a right to copy for future compatibility without further guidance from the Ninth Circuit or Congress. See Copyright/Patent Order at 25.

Moreover, the entire debate over future compatibility has become somewhat misdirected and divorced from basic copyright principles. Any right to achieve current compatibility must be based on Section 102(b) considerations. Program code that is strictly necessary to achieve *current* compatibility presents a merger problem, almost by definition, and is thus excluded from the scope of any copyright. <sup>3</sup>A defendant may not only make intermediate copies of an entire program to discover the existence of such code, but it may also copy that code into its final product. In contrast, program code that relates only to *future* compatibility has no current function and thus cannot merge with the expression of any idea. Such code is therefore not entitled to copyright protection, <sup>4</sup>and its presence in a defendant's final product can be evidence of infringement. To the extent Atari has moved for *reconsideration* of the Court's prior holding, that motion is DENIED.

### II. Standards for Summary Judgment of Copyright Infringement

Since evidence of actual copying is difficult, if not impossible, to obtain, a plaintiff may establish infringement by showing that "the infringer had access to the work and that the two works are substantially similar." *Shaw v. Lindheim*, 919 F.2d 1353, 1356 [15 USPQ2d 1516 ] (9th Cir. 1990). The premise behind this theory is that the similarity between the two works raises an inference of actual copying. See M. Nimmer & D. Nimmer, *Nimmer on Copyright*, Section 13.01 [B] at 13-11--13-12 ("when the question is copying as a factual matter, then similarities that, in the normal course of events, would not be expected to arise independently in the two works are probative of defendant's having copied as a factual matter from plaintiff's work"). As a result, summary judgment for the plaintiff "is proper where works are so overwhelmingly identical that the possibility of independent creation is precluded." *Twentieth Century-Fox Film Corp. v. MCA, Inc.*, 715 F.2d 1327, 1330 [217 USPQ 611] (9th Cir. 1983).

Since the exclusive rights granted by the Copyright Act inhere only in "protected" elements of the copyrighted work, the substantial similarity analysis must separate unprotected elements from the two works before deciding whether the works are "substantially" similar. Such "analytic dissection" is mandated by the fact that the plaintiff has no ownership rights in unprotected elements of the work. *Brown Bag Software v. Symantec Corp.*, 960 F.2d 1465, 1476 [22 USPQ2d 1429 ] (9th Cir. 1992) (analytic dissection should be used to define the scope of plaintiff's copyright). The Ninth Circuit has recognized that this problem is

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particularly acute in the case of computer software:

Computer programs pose unique problems for the application of the "idea/expression distinction" that determines the extent of copyright protection. To the extent that there are many possible ways of accomplishing a given task or fulfilling a particular market demand, the programmer's choice of program structure and design may be highly creative and idiosyncratic. However, computer programs are, in essence, utilitarian articles -- articles that accomplish tasks. As such, they contain many logical, structural,

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and visual display elements that are dictated by the function to be performed, by considerations of efficiency, or by external factors such as compatibility requirements and industry demands . . . In some circumstances, even the exact set of commands used by the programmer is deemed functional rather than creative for the purposes of copyright.

*Sega Enterprises Ltd v. Accolade, Inc.* , 977 F.2d 1510, 1524 (9th Cir. 1992) (citation omitted). In reviewing this problem, the Ninth Circuit rejected the broad test set forth in *Whelan Assoc., Inc. v. Jaslow Dental Laboratory, Inc.* , 797 F.2d 1222, 1236 [230 USPQ 481 ] (3d Cir. 1986) in favor of the more analytical test adopted by the Second Circuit in *Computer Assoc. Int'l, Inc. v. Altai, Inc.* , 982 F.2d 693, 706-12 (2nd Cir. 1992). See *Sega* , 977 F.2d at 1525 ("Under a test that breaks down a computer program into its component subroutines and sub-subroutines and then identifies the idea or core functional element of each, such as the test recently adopted by the Second Circuit in [ *Computer Associates* ], many aspects of the program are not protected by copyright. In our view, in light of the essentially utilitarian nature of computer programs, the Second Circuit's approach is an appropriate one.").

In *Computer Associates* , the Second Circuit outlined a three part procedure which involves, "abstraction, filtration, and comparison": 5

In ascertaining substantial similarity under this approach, a court would first break down the allegedly infringed program into its constituent structural parts. Then, by examining each of these parts for such things as incorporated ideas, expression that is necessarily incidental to those ideas, and elements that are taken from the public domain, a court would then be able to sift out all non-protectable material. Left with a kernel, or possible kernels, of creative expression after following this process of elimination, the court's last step would be to compare this material with the structure of an allegedly infringing program. The result of this comparison will determine whether the protectable elements of the program at issue are substantially similar so as to warrant a finding of infringement.

*Computer Associates*, 982 F.2d at 706.

### III. Comparison of the 10NES and Rabbit Programs

In this case, the Court need only perform an abbreviated *Computer Associates* analysis. *Id* . (noting district courts may find it appropriate to utilize a *modified* version of the analysis). While many levels of abstraction can be identified in the 10NES program, <sup>6</sup>the parties have focused this motion primarily on similarities between the way specific modules are designed and constructed, a relatively low level of abstraction. To a lesser extent, the parties debate similarities based on the existence of modules with identical functions in both programs, a somewhat higher level of abstraction.

In addition, while the typical *Computer Associates* analysis would involve many possible filters, the primary filter in this case is supplied by the Court's prior holding. Since the Court found that no copyrightable expression exists in the specific data points sent from the cartridge to the console at predetermined times, any instructions necessary to produce a signal stream that will unlock the

current 10NES console must be filtered out under basic merger principles. Under the *Computer Associates* procedure, this filter would be an "element dictated by external factors." *Id.* at 709 (including as an external factor, "compatibility requirements of other programs with which a program is designed to operate in conjunction").

#### A. Preliminary Evidentiary Considerations

In its current cartridges, Nintendo uses the 6113 program instead of the 10NES program. The 6113 is a derivative of the original 10NES program and it will successfully unlock all NES consoles. Atari argues that the 6113 is irrelevant because "Atari Games has never been aware of this program's instructions, nor the 10NES functions it omits." Atari's Mem. of Pts. and Auth. at 22. This argument completely misses the point. Atari is not being accused of copying the 6113. Rather, the 6113 is relevant to show that several ways exist to unlock the 10NES console. If the 6113 omits a particular feature found in the original 10NES program, then that feature cannot be necessary for current compatibility.

Atari also argues that features omitted in the 6113 could become necessary if Nintendo reprograms its consoles to check for either all 10NES authenticating procedures *or* all 6113 authenticating procedures. This theory goes to requirements dictated by *future* compatibility, however, and has been previously rejected by the Court in its prior holding.

Finally, Atari's clean room evidence acts as a double-edged sword. Since the clean room program was written without access to the 10NES program, similarities among the clean room program, the 10NES and the Rabbit program provide strong evidence that certain similarities result from compatibility requirements or common programming practices not original to Nintendo. At the same time, differences between the clean room program and the 10NES provides strong evidence that multiple ways exist to implement a particular function and that Nintendo's chosen implementation cannot be discarded through filtration. In addition, Atari produced two clean room versions, one based on a minimal specification necessary to unlock a current NES console and one based on more detailed specifications necessary to achieve "functional indistinguishability" or future compatibility. In light of the Court's prior holding, only the clean room version produced from minimal specifications is relevant to this motion.

#### B. Abstraction, Filtration, and Comparison of Alleged Similarities

The parties have focused on the following similarities between the programs:

##### 1. "Lock" Elements

The 10NES program was designed to operate in both the cartridge and the console. At execution, the program determines where it is being executed and then executes only those instructions that are relevant to its current function as either the "lock" or the "key." When the 10NES functions as a lock (in the console), the program elements identified below are used to authenticate the cartridge. When the 10NES functions as a key (in the cartridge), the program elements identified below are used to authenticate *the console*. This feature prevents Nintendo cartridges from being used with non-Nintendo consoles. In contrast, the sole function of the Rabbit program is to unlock the NES console. As a result, the Rabbit

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program need not include procedures which authenticate the console. Nintendo argues, quite correctly, that the existence of these program elements in the Rabbit program raises an inference of impermissible copying.

Nintendo has identified the following lock-specific functions implemented in the Rabbit program:

- (a) instructions that receive data from the console and compare it to internally calculated results;
- (b) instructions that check to see if the console sends a "0" before each data point;
- (c) endless loop instructions that cause the Rabbit program to freeze if the cartridge sends the wrong data.

Atari presents three justifications for including these features in the Rabbit program. First, Atari argues that Nintendo could reprogram its console so that it rejects cartridges which do not attempt to authenticate the console. That argument essentially relates to future compatibility and has already been rejected by the Court. Second, Atari contends that viewed at the proper level of abstraction, it implements these features with programming expression "completely different from, and considerably more 'elegant' than the expression utilized by the 10NES program." Atari's Mem. Pts. & Auth. at 16. The problem with this argument is that infringement may occur at any level of abstraction. *Computer Associates*, 982 F.2d at 707 (filtering must be applied to each level of abstraction). Thus, even if no similarity exists at a low level of abstraction, infringement may still be found at any

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higher level of abstraction that survives filtration analysis. In the examples cited by Nintendo, similarities undoubtedly exist at the "gross function" level. <sup>7</sup> See *Johnson Controls v. Phoenix Control Systems*, 886 F.2d 1173, 1176 [12 USPQ2d 1566] (9th Cir. 1989) (creative and protectable expression may exist in non-literal program elements, including program structure and organization). Atari has not identified any reason why similarities at the gross function level should not survive filtration. <sup>8</sup> Finally, Atari argues that there are many lock-specific features which it did not include in the Rabbit program. Atari may not avoid summary judgment by pointing to what it did not copy. *Shaw*, 919 F.2d at 1362 ("No plagiarist can excuse the wrong by showing how much of his work he did not pirate.") (citation omitted).

[9] The Court finds this evidence to be particularly probative of impermissible copying of "protected expression." <sup>9</sup> In analyzing substantial similarity, it is important not to forget that this analysis exists only to raise an evidentiary *inference* of actual copying, where access has been conceded. Given this evidentiary function, not all similarities are created equal. Where the similarities involve program code that serves no purpose in the defendant's program, the evidentiary inference is strong. See e.g. *Atari I*, 975 F.2d at 845 ("copying of fully extraneous instructions unnecessary to the 10NES program's function strongly supports" showing of infringement); *M. Kramer Mfg. Co. v. Andrews*, 783 F.2d 421, 446 [228 USPQ 705] (4th Cir. 1986) ("The courts have consistently viewed 'common

errors' as the strongest evidence of copying."); *E.F. Johnson Co. v. Uniden Corp. of Am.*, 623 F.Supp. 1485, 1496 [ 228 USPQ 891 ] (D. Minn. 1985) ("The existence of the identical unnecessary instructions in both codes is strong proof of substantial similarity."); *SAS Inst. v. S & H Computer Sys.*, 605 F.Supp. 816, 826 [ 225 USPQ 916 ] (M.D. Tenn. 1985) (inclusion of "totally functionless" code "can be explained only as a result of slavish copying of structural detail"). In the context of reverse engineering, the existence of such non-functional similarities may mark the difference between a defendant who carefully studied the plaintiff's program in order to determine which sections of code were necessary for compatibility and therefore unprotected and the defendant who slavishly and indiscriminately copied large portions of the plaintiff's code. The first defendant represents the ideal case of permissible reverse engineering as outlined in *Sega*, while the second defendant is a garden-variety infringer. See *Sega*, 977 F.2d at 1522 ("Accolade did not seek to avoid paying a customarily charged fee for use of those procedures, nor did it simply copy Sega's code; rather, it wrote its own procedures based on what it had learned through disassembly.").

## 2. The Hash Program

Nintendo argues that Atari adopted a "virtually identical" hash section in its program. Nintendo contends that the mathematical transformations necessary for compatibility could be implemented using different instructions. Nintendo further points to the fact that the clean room specifications indicated that the order of the transformations was largely arbitrary and would not affect compatibility and that the clean room program produced by Les Abrams ("Abrams") used a different sequence of transformations to hash the master and slave cells. Atari responds by arguing that its hash routine is not a line by line copy and instead uses different code wherever possible.

It appears that there are some similarities and some differences in the way the Rabbit program hashes the cells. The 10NES program hashes its cells by proceeding in numerical order; i.e., 1 through 15, while the Rabbit program hashes registers 3 through 15 and then hashes cells 1 and 2. At the same time, Nintendo points to the fact that both programs hash cells 3 through 7 in numerical order while the clean room version hashes them in a

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different order. <sup>10</sup>Nintendo contends that this difference is important in light of Abrams' testimony that he chose a different order specifically to fit the constraints of the Rabbit processor. Decl. of Larry S. Nixon, Exh. C, Deposition of Les Abrams ("Abrams Depo.") at 446-47.

This evidence is not particularly favorable to either party. Atari's use of a slightly different order by hashing cells 1 and 2 last represents a trivial variation. While it might suggest an inference of independent creation, it just as strongly suggests an inference that Atari deliberately altered the code to hide evidence of copying. *Business Trends Analysts v. Freedomia Group, Inc.*, 887 F.2d 399, 403 [12 USPQ2d 1457 ] (2nd Cir. 1989) (differences which "amount only to a crude effort to give the appearance of dissimilarity . . . are thus themselves evidence of copying"); *Atari, Inc. v. North American Philips Consumer Elec. Corp.*, 672 F.2d 607, 618 [214 USPQ 33 ] (7th Cir. 1982) ("The nature of the alterations of

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which North American relies only tends to emphasize the extent to which it deliberately copied from the plaintiffs' work.").

At the same time, the Court does not find Nintendo's evidence of similarity to be particularly probative of copying. Hashing the cells in numerical order is a logical and obvious choice. Even if Atari did not choose the most efficient hashing order for the Rabbit program, 11 its choice of a generally obvious solution supports an inference of independent creation as much as an inference of copying. Moreover, performing a series of operations by proceeding sequentially through memory locations is a common programming practice and thus should be filtered out as an external factor. See *Computer Associates*, 982 F.2d at 710 (filtering out "widely accepted programming practices within the computer industry"). Finally, the Court questions whether hashing the cells in numerical order is sufficiently original to qualify for copyright protection in the first place. *Feist Publications v. Rural Telephone Service Co.*, 111 S.Ct. 1282, 1296 [18 USPQ2d 1275 ] (1991) (alphabetical listing in white pages directory not sufficiently original to qualify for copyright protection). The choice to hash the cells in numerical order may well be "so mechanical and routine as to require no creativity whatsoever." *Id.*

### 3. Elements Not Present in the 6113 Program

Nintendo points to three programming elements which appear in the 10NES and Rabbit programs, but which do not appear in the 6113 program and therefore cannot be necessary for compatibility:

- (a) The 10NES program operating in the cartridge checks for a "0" bit on its input pin 28 clock cycles before transmitting each data point. The 6113 does not include this additional check and operates properly even if the console sends a "1" 28 clock cycles before each data point.
- (b) The 10NES transmits and receives data by executing the instructions ATR (output bit), NOP (delay or do nothing), and RTA (receive bit). The 6113 program omits the NOP instruction but still operates properly.
- (c) The 10NES sets its output pin to "0" upon shut down while the 6113 program sets the output pin to "1" upon shut down.

With respect to the first example, this feature essentially serves as an additional check on the authenticity of the console. As already noted, features that authenticate the console are not necessary to unlock the console and are highly probative of impermissible copying. See *supra* Section III(B)(1).

The second example is also probative of illicit copying, although Nintendo's characterization may be somewhat misleading. Apparently, the 6113 program does not actually omit the NOP instruction; rather, it simply reverses the order of the NOP and RTA instructions so that the 6113 executes ATR, RTA, then NOP. Nonetheless, this arrangement is a different implementation which suggests some range of expression is possible. More important, since the Rabbit program need not authenticate the console, the RTA instruction itself is unnecessary. Thus, Atari's duplication of both the RTA instruction and the ATR, NOP, RTA sequence supports an inference of copying.



Finally, the third example is minimally probative of copying. There are only two possible choices for setting the output pin upon shut down; the fact that Atari chose the one used by the 10NES only weakly suggests copying.

#### 4. Replication of the Entire Data Stream

Nintendo focuses on two “unnecessary” similarities in the way Atari replicates the 10NES signal stream:

- (a) The Rabbit program sets its output pin to “0” only two instructions after sending each data point, while this function could be performed at any time prior to sending the next data point.
- (b) The Rabbit program sets the output pin to the value of the data point being sent for twelve clock cycles, while the 6113

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program sets its output pin to the value of the data being sent for only eight clock cycles.

The first example must be filtered out as an efficient programming practice. It is technically true that the output pin could be set to “0” any time before the next data point is set. Atari, however, has produced credible evidence indicating that there are only two logical places to perform this function; either right after each data point, as the 10NES program does, or right before the next data point, as the Abrams clean room program does. See Declaration of Gideon Frieder (“Frieder Decl.”) Para.49. Because only two choices are available to the programmer, this feature must be eliminated in the filtration process. *Computer Associates*, 982 F.2d at 710. Moreover, application of this filter in this context is mandated by basic merger principles. See *Shaw*, 919 F.2d at 1360 (citing *Morissey v. Procter & Gamble Co.*, 379 F.2d 675, 678-79 [ 154 USPQ 193 ] (1st Cir. 1967) (merger precludes protection “where the topic permits only a limited amount of expression”). The Court also questions whether the choice to set the output pin to “0” at one of two logical times is sufficiently original to qualify for protection in the first place. *Feist*, 111 S.Ct. at 1294 (“There remains a narrow category of works in which the creative spark is utterly lacking or so trivial as to be virtually non-existent.”).

Nintendo responds by citing a memo from one of Atari's clean room programmers discussing four possible implementations. See Nintendo's Appendix at A423. This memo does raise some questions about the claims of Atari's expert. Nonetheless, Nintendo is the moving party in this motion, and the Court must draw all reasonable inferences in Atari's favor. Atari has raised a genuine issue of fact regarding whether this feature must be filtered out as an efficient programming practice. At this stage of the proceedings, the Court finds this example not to be probative of copying.

Nor is the second example probative of copying. Nintendo argues that the Rabbit program need only set the output pin for a single clock cycle in order to unlock the console. While technically correct, this argument is disingenuous. Each program instruction takes four clock cycles to execute; therefore, the output pin must be set for four clock cycles, at a minimum. The entire period encompassing twelve clock cycles involves only three instructions so that



the range of expression is fairly limited. In addition, Atari has presented credible evidence indicating that, because of timing differences between the microprocessors used by Nintendo and Atari, sending the data point for twelve clock cycles is necessary to ensure proper communication. Frieder Decl. Para. 69. Given this factual dispute, the Court finds this example not to be probative of copying.

## 5. Other Program Elements

Nintendo has identified two other program elements that must be analyzed:

(a) The Rabbit program not only includes a "shut-down" function which is unnecessary to its function as a key, but it also uses the same "do-nothing" endless loop as the 10NES to implement the shut-down function.

(b) The 10NES program utilizes an EXCI (exchange and increment) instruction to exchange values between memory and general purpose registers during the hash routine. The Rabbit program "emulates" this instruction even though the language for the Rabbit microprocessor has no exact replica of the EXCI instruction.

The first example is highly probative of copying. Atari argues that the use of a single endless loop to shutdown a system is a standard and obvious programming practice. That may be true, but Atari ignores the fact that the Rabbit program has no need to ever execute that shut-down loop. The shut-down loop functions only as part of the *console* authentication procedures, which the Rabbit program has no need to duplicate in order to unlock the console. <sup>12</sup>As long as the Rabbit program operates in conjunction with an NES console, the shut-down loop will never be invoked. The inclusion of such non-functional features provides strong evidence of copying. *E.F. Johnson*, 623 F.Supp. at 1496 ("The existence of the identical unnecessary instructions in both codes is strong proof of substantial similarity.").

The second example is less successful. The Rabbit microprocessor does not contain a single instruction equivalent to the EXCI instruction used by Nintendo. Nintendo argues that Atari replicates the EXCI by using three specific instructions in sequence. This argument fails because Atari never uses the sequence of instructions asserted by Nintendo. In the only sequence bearing any

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resemblance to Nintendo's alleged equivalent, the three instructions do not appear in sequence but are interrupted by a branching instruction which changes the function of the sequence. Frieder Decl. Para. 75. In its reply brief, Nintendo acknowledges this argument but responds that these statements must be a "vestige" of earlier wholesale copying from the 10NES program. Nintendo, however, has not shown that this four-instruction sequence is a vestige of the EXCI sequence rather than a functional part of the current Rabbit program. As a result, the Court finds this evidence not to be probative of illicit copying. <sup>13</sup>

## C. Significance of Similarities Surviving Filtration

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[10] The Court has identified six similarities that are both probative of copying and that cannot be eliminated by filtration. While there is no exact formula for determining how much misappropriation of material is necessary to constitute infringement, the six examples are more than sufficient. *Baxter v. MCA*, 812 F.2d 421, 425 [2 USPQ2d 1059 ] (9th Cir. 1987) ("Even if a copied portion be relatively small in proportion to the entire work, if qualitatively important, the finder of fact may properly find substantial similarity."). In particular, the Court finds that the existence of program elements in the Rabbit program which serve no function other than authenticating the *console* firmly establish illicit copying. In a case where the defendant claims legitimate reverse engineering, the defendant effectively concedes that it has made intermediate copies of the entire work. Even where this intermediate copying is permitted under *Sega*, the defendant must still show that its final product includes only those program elements that are not protected for some reason, such as merger or a specific *Computer Associates* filter. *Sega*, 977 F.2d at 1528. In this case, Nintendo has identified six examples which appear in the Rabbit program and which constitute protected expression in the 10NES program. As a result, the Court finds that this evidence is sufficient to preclude the possibility of independent creation and that no reasonable jury could find otherwise. *Twentieth Century-Fox*, 715 F.2d at 1330.

## CONCLUSION

For the reasons set forth above, the Court GRANTS Nintendo's Motion for Summary Judgment of Copyright Infringement.

SO ORDERED.

## Footnotes

1 The Court will issue separate orders with respect to the Lanham Act and RICO claims. The remaining motion, Nintendo's Motion for Summary Judgment of Copyright Infringement, will be heard on May 13, 1993.

1 This approach is consistent with the Ninth Circuit's recent decision in *Sega Enterprises, Ltd. v. Accolade, Inc.*, 977 F.2d 1510, 1524 n.7 [ 24 USPQ2d 1561 ] (9th Cir. 1992), in which the Ninth Circuit noted that Sega's "Security code is of such *de minimis* length that it is probably unprotected under the words and short phrases doctrine." In essence, the Ninth Circuit focused on the security code itself and whether it qualified as copyrightable subject matter. The same approach should be applied to Nintendo's signal stream.

2 Atari uses the term "silence" to represent those periods when the console chip is not checking the value on its input pin. While Nintendo currently sets the cartridge's output pin low during the periods of silence, a program could be written that would still unlock the current NES console even if the output pin was set differently during the periods of silence. From the perspective of the console, what happens on the output pin during those moments of "silence" presents the computer corollary to the classic conundrum, if a tree falls in the forest and no one perceives it, has it really fallen? While this question poses a vexing philosophical problem regarding our conception of reality, in the computer context, the

answer is "who cares."

3 Of course, a sufficiently original *collection* of computer data might be copyrightable as a compilation if it satisfied the standards set forth in *Feist Publications v. Rural Telephone Service Co.*, 111 S.Ct. 1282 [18 USPQ2d 1275] (1991).

4 During some iterations, the console chip only receives and compares a subset of the numbers calculated by the cartridge chip.

5 Between each data bit, the console chip also expects to read a "0" on its input pin at a specified time. Thus, if the bits to be authenticated are for example, "1010111," then the cartridge chip must actually send "10001000101010." The extra "0" between each bit provides some additional security because anyone writing a competing program for the cartridge chip must know that this "0" must be transmitted at the proper time. It does not, however, change the fact that the authentication process involves the simple transfer of program *data* and this *data* is not copyrightable subject matter.

6 Nintendo still disputes whether *Sega* even stands for the proposition that Atari may copy portions of code to achieve *present* compatibility. Nintendo argues that nothing in *Sega* allows a defendant to copy copyrighted *expression* in order to achieve compatibility. This argument misconstrues the reverse engineering problem. Whether a particular portion of program code is copyrightable "expression" or an uncopyrightable "idea" represents a legal conclusion that depends largely on whether the particular code is necessary for compatibility. Under a proper "filtration" analysis, if a particular portion of code is strictly necessary to achieve compatibility, then the merger doctrine dictates that it is not copyrightable expression in the first place. See *Sega*, 977 F.2d at 1524 (noting that compatibility requirements are an "external factor" which should be applied in the filtration analysis).

7 Nintendo also emphasizes that in *Sega*, Accolade was attempting to discover interface requirements relating to Sega's *hardware* and therefore *Sega* should not be read as allowing copying of software interface requirements. Nothing in the Ninth Circuit's analysis of reverse engineering and fair use raises a distinction between hardware and software interfaces. In fact, the Ninth Circuit's ultimate holding allows reverse engineering "where disassembly is the only way to gain access to the ideas and functional elements in a *copyrighted computer program*." 977 F.2d at 1527. That language does not distinguish between functional elements relating to hardware interfaces and those relating to software interfaces.

8 This privilege assumes that the 10NES program was lawfully obtained. See *Atari I*, 975 F.2d at 843 ("To invoke the fair use exception, an individual must possess an authorized copy of a literary work.").

9 In this context, the code necessary to generate the signal stream would qualify as an "element dictated by external factors." See *Computer Associates*, 982 F.2d at 709-710 (citing the following as examples of external factors: "(1) the mechanical specifications of the computer on which a particular program is intended to run; (2) compatibility requirements of other programs with which a program is designed to operate in conjunction; (3) computer manufacturers' design standards; (4) demands of the industry being serviced; and (5) widely accepted programming practices within the computer industry."). See generally 3 Melville B. Nimmer & David Nimmer, *Nimmer on Copyright*

Section 13.03 [F] [3] at 13-66-71.

10 In light of the equitable nature of the fair use doctrine, Atari's conduct in obtaining the 10NES code from the Copyright Office may be relevant to this analysis.

11 Nintendo also intends to assert claims 2, 4-10, and 13 at trial, but does not raise those claims in this motion.

12 See 4 D. Chisum, *Patents*, Section 18.06 [2] [a] (collecting cases).

13 While the operation of the accused device itself should not be used to determine initial issues of claim construction, "the particular accused product (or process) is kept in mind, for it is efficient to focus on the construction of only the disputed elements or limitations of the claims." *Scripps Clinic & Research Foundation v. Genentech, Inc.*, 927 F.2d 1565, 1580 [18 USPQ2d 1001] (Fed.Cir. 1991).

14 As Atari correctly emphasizes, even if their accused device uses the same arrangement as Nintendo's commercial embodiment of the device, there can be no infringement if the *claims* in the '635 patent do not cover that arrangement. Infringement must be determined by comparing the accused device to the claims of the patent itself and not to the plaintiff's commercial embodiment of the patent.

15 In addition, the parties' on-going bickering regarding whether one expert or another "admitted" infringement does little to shed light on the proper construction of the claims.

16 Nintendo raises an additional argument regarding "predetermined relationship" that must be addressed. Nintendo contends that since the security system could be implemented by one-way data exchange in which only the cartridge sends its results to the console, no relationship between *exchanged* data must exist at all. There are several reasons why this possible implementation does not affect the scope of the patent with respect to two-way communication. First, while the Court need not resolve this issue, it is not at all clear that the patent covers, discloses or in any way suggests a system with one-way communication. Starting with the abstract, the specification notes, "The results of these operations are *exchanged* ." '635 patent, abstract. Similarly, "The operating program also includes a program routine for comparing the computation result of the lock device 30 with the result computed by the key device 34 *and vice versa* ." '635 patent, col. 4, lines 29-32. In addition, the figures accompanying the specification disclose only mutual exchange. When describing Figure 5, the specification notes that "the above-described results of the operations are transferred *mutually* between the lock device 30 and the key device 34." '635 patent, col. 5, lines 56-58. With respect to Figure 6, the specification notes, "responsively, in steps S18 and S18 ', the two devices 30 and 34 *mutually* receive the results of arithmetic operation outputted from the counterpart, respectively." '635 patent, col. 7, lines 8-11. The specification also describes the following in Figure 6, "in step S26, the lock device 30 *passes the results* of the arithmetic operation performed in step S25 to the key device 34, *and also receives the results of the arithmetic operation performed by the key device 34* ." '635 patent, col. 8, lines 1-4. With respect to Figure 7, the specification notes that steps S110-S120 and S111 '-S119 ' are identical to steps S10-S20 and S11 '-S19 ' in Figure 6 and, for that reason, no additional discussion is devoted to these steps in the context of Figure 7. Figure 7 therefore describes the same operations as Figure 6 for those steps that are relevant to this issue. While the failure to expressly illustrate one-way exchange in the specification is not dispositive of the scope of the claim, it is troublesome

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because the claim language is not clear on its face. Second, even if the patent covers one-way communication, the sole issue for this motion is whether a predetermined relationship between exchanged data is required if two-way communication is used. Construing the ambiguous language of claim 1 in light of the specification, the Court holds that where two-way exchange of data is involved, the claim requires that the *data* sent from one direction must bear some predetermined relationship to the *data* sent in the other direction.

17 The absence of the “predetermined relationship” language in claim 12 does not require a broader reading of claim 12 than claim 1, even under the doctrine of claim differentiation. As a general rule, claims should not be interpreted in a manner that renders two claims redundant. *Tandon Corp. v. U.S. Int’l Trade Comm.*, 831 F.2d 1017, 1023 [ 4 USPQ2d 1283 ] (Fed.Cir. 1987). Claim differentiation is not dispositive for several reasons. First, even if both claims are interpreted as requiring a predetermined relationship between data exchanged, they are not redundant in all respects. Claim 1 involves an “authenticating processor device” while claim 12 involves a “microprocessor . . . having a stored authenticating program.” As a result, claim 1 implies the use of a dedicated integrated circuit or a microprocessor while claim 12 implies only the use of a general-purpose microprocessor with the authenticating program stored somewhere in memory accessible by the microprocessor. This distinction justifies two separate and independent claims to preserve the widest range of protection for the inventor. In addition, claim differentiation is not an immutable rule and cannot be used to support an interpretation which is contrary to the specification. *Id.* at 1024 (“Whether or not claims differ from each other, one can not interpret a claim to be broader than what is contained in the specification and the claims as filed.”). As the Federal Circuit has noted:

[Claim differentiation], although well-established in our cases, cannot overshadow the express and contrary intentions of the patent draftsman. It is not unusual that separate claims may define the invention using different terminology, especially where (as here) independent claims are involved.

*Hormone Research*, 904 F.2d at 1567 n.15.

18 Since the claim language refers to determination by “said first *and* second microprocessors,” this claim plainly contemplates mutual exchange of data. *See supra* note 24.

19 The fact that predetermined relationship does not mean “identical” is a matter of claim construction and therefore a matter of law for the court.

20 The number of bits transmitted depends on the value of cell #7 in the *slave* bank which will depend upon the random seed and therefore be different each time the program is executed.

21 Where summary judgment is denied, the preferable resolution at trial is to submit special interrogatories to the jury regarding the underlying *Graham* factors. The Court may then review the jury's ultimate conclusion regarding obviousness on a Renewed Motion for Judgment as a Matter of Law (JNOV) by relying on the jury's factual findings. *Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888 [ 221 USPQ 669 ] (Fed.Cir. 1984), *cert. denied*, 469 U.S. 857 [225 USPQ 792] (1984).

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22 Atari cited testimony from its own expert, Dr. Crocker, who noted that the programming manual for the 6502 microprocessor describes reset lines. In addition, Dr. Crocker concluded that, "so the reset line is part of the everyday experience of everybody who designed the digital system and includes a microprocessor . . . So it is part of the daily bread, if you will, of a designer"). Atari's Mem. of Pts. & Auth. at 7, n.5. This evidence is not sufficient to raise a genuine issue of fact regarding inherency, because while reset lines may have been common, it does not show that the disclosure of a lock status output signal would *necessarily* indicate that the reset pin should be used. Dr. Crocker's testimony more appropriately bears on the issue of obviousness. *Scripps Clinic*, 927 F.2d at 1577 ("If it is necessary to reach beyond the boundaries of a single reference to provide missing disclosure of the claimed invention, the proper ground is not Section 102 anticipation, but Section 103 obviousness.").

23 Of course, Atari ultimately has the burden of proving obviousness; however, Nintendo is the moving party in this motion and therefore has the burden of proving that it is entitled to judgment as a matter of law. It has failed to do so.

24 District courts have the inherent power to grant summary judgment *sua sponte*. See *Celotex*, 477 U.S. at 326.

25 This "suggestion" should not be confused with the "suggestion" necessary to *combine* Roe and Famicom in the first place. The Court has already found that Roe itself provides the necessary suggestion for the combination. The only remaining question is whether the differences between the way the reset pin is used in Famicom and the way it is used in the '635, if any, justify a finding of nonobviousness. If the differences are suggested by the prior art, then the '635 is rendered obvious.

26 The apparent absence of any Federal Circuit authority using incorporation by reference in the context of anticipation further confirms that Roe's reference to FIPS 46 should be treated as a Section 103 obviousness problem.

27 Nintendo's Mem. of Pts. & Auth. in Reply at 6 n.4.

1 Nintendo did raise one minor technicality which bears clarification, although it has no effect on the Court's holding. The Court originally described the periods of silence as "those periods when the console chip is not checking the value on its input pin. While Nintendo currently sets the cartridge's output pin low during the periods of silence . . ." Copyright/Patent Order at 14 n.10. Nintendo correctly points out that there is a period when the output pin might not be set low, even though the console chip is not checking its input pin. When each data point is sent, the output pin is set to the value of the data point for 12 clock cycles. Since it only takes the console chip 4 clock cycles to check its input pin, there is indeed a period of 8 clock cycles when the output pin might be set high and the console chip is not listening. Of course, this period of time is a minuscule number of clock cycles compared to the clock cycles when the output pin *is* set low and the console chip is not listening. To the extent the original order was at all unclear, the Court now clarifies that the periods of silences do not include the 12 clock cycles around each data point, a definition that was implicit in the Court's original ruling.

2 The Court is not unsympathetic to the tales of woe related by Atari. Limiting the scope of copyright protection is not the proper response, however. If there is a remedy for the behavior feared by Atari, it may be provided by the antitrust laws and the copyright misuse

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doctrine. See *Atari I* 975 F.2d at 846 (rejecting Atari's copyright misuse defense on the facts of this case, but noting that it may be a viable defense "under the appropriate factual setting").

3 In other words, there is only one way to express the idea of generating a signal stream that unlocks the NES console.

4 Assuming, of course, that no other barrier to protection exists, such as in *Sega*, where the court indicated that the code was of such de minimis length and originality that it probably lacked protection under the words and short phrases doctrine. *Sega Enterprises Ltd v. Accolade, Inc.*, 977 F.2d 1510, 1524 n.7 [24 USPQ2d 1561] (9th Cir. 1992). Similarly, any of the "filters" identified in *Computer Assoc. Int'l v. Altai, Inc.*, 982 F.2d 693, 706-12 (2nd Cir. 1992), could raise an independent barrier to protection.

5 This approach is largely based on the "successive filtering" method developed in 3 M. Nimmer & D. Nimmer, *Nimmer on Copyright*, Section 13.03 [F].

6 For example, the levels could be defined as follows:

- (1) a program that authenticates and unlocks a video console and game cartridge;
- (2) a program that unlocks the NES game console;
- (3) the basic modules; i.e., initialize, hash, and exchange and authenticate;
- (4) the functions performed in each module;
  - (a) for the initialize module: select random seed, send it to cartridge, set up initial values in the master and slave banks;
  - (b) for the hash module: the specific mathematical transformations used to hash the values in both banks;
  - (c) for the exchange and authenticate module: determine which values to send, send the values, compare values to those previously calculated;
- (5) the basic algorithm used to perform each function in each module;
- (6) the line by line instructions used in each module.

7 See *supra* note 4. This level is essentially equivalent to level 4.

8 Atari did not copy the general idea of console authentication, but instead copied Nintendo's specific implementation of that idea. At this level of abstraction, there is no merger of idea and expression. In addition, since this expression is not necessary to unlock the NES console, the "compatibility" filter does not eliminate the protected expression at this level of abstraction. Nor has Atari identified any other filter which would be relevant at this level of abstraction.

9 Whether particular program elements are an unprotected "idea" or protected "expression" is a legal conclusion that depends on the *Computer Associates* analysis. The elements identified above are protected expression precisely because they survived the filtration process. See *Computer Associates*, 982 F.2d at 706 (after filtration process, the Court is left with "a kernel" of protected expression).

10 The clean room version hashes them as 3, 6, 5, 4, 7 or 3, 4, 7, 6, 5 depending on the

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value in cell #3.

11 Nintendo and Atari dispute whether Abrams' clean room version is more efficient.

12 Atari has *argued* that somehow the entire console authentication procedure could later be used by Nintendo as an additional element of *cartridge* authentication. Atari proposes that future NES consoles could be programmed to reject cartridges that do not attempt the *console* authentication procedures. Even if the Court accepts this scenario, this feature relates only to future compatability and cannot be eliminated by filtration.

13 Moreover, the "EXCI" instruction is apparently a macro built into the Sharp microprocessor used in the NES system. As such, it is not original to Nintendo. Nintendo cannot claim any property rights in the "EXCI" instruction.

- End of Case -  
A0B1Y4W5G5



**UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT**

95-1191,-1229

ALPEX COMPUTER CORPORATION,

Plaintiff/Cross-Appellant,

v.

NINTENDO COMPANY LTD. and

NINTENDO OF AMERICA, INC.,

Defendants-Appellants.

John L. Strauch, Jones, Day, Reavis, & Pogue, of Cleveland, Ohio, argued for plaintiff/cross-appellant. With him on the brief were Barry L. Springel, Richard H. Saylor, and Joseph D. Pollack. Of counsel were Robert J. Hoerner and Marc L. Swartzbaugh.

Thomas G. Gallatin, Jr., Mudge Rose Guthrie Alexander & Ferdon LLP, and Herbert F. Schwartz, Fish & Neave, of New York, New York, argued for defendants-appellants. With them on the briefs were John J. Kirby, Jr., Shelley B. O'Neill, and Robert J. Gunther, Jr., Mudge Rose Guthrie Alexander & Ferdon LLP. Of counsel was Larry S. Nixon, Nixon & Vanderhye, P.C., of Arlington, Virginia.

Appealed from: U.S. District Court for the Southern District of New York (New York)

Judge Wood

**United States Court of Appeals for the Federal Circuit**

95-1191,-1229

ALPEX COMPUTER CORPORATION,

Plaintiff/Cross-Appellant,

v.

NINTENDO COMPANY LTD. and

NINTENDO OF AMERICA, INC.,

Defendants-Appellants.

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DECIDED: November 6, 1996

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Before ARCHER, Chief Judge, RICH, and NEWMAN, Circuit Judges.ARCHER, Chief Judge.

Nintendo Company, Ltd. and Nintendo of America, Inc. (collectively Nintendo) appeal the January 6, 1995, judgment of the United States District Court for the Southern District of New York, Alpex Computer Corp. v. Nintendo Co., 34 USPQ2d 1167 (S.D.N.Y. 1994), holding U.S. Patent No. 4,026,555 (the '555 patent), owned by Alpex Computer Corporation (Alpex), not invalid, willfully infringed, and awarding \$253,641,445 in damages and interest. We affirm the judgment as to validity and reverse the judgment of infringement. I.

This case deals with an invention within the art of video games. The video game industry began in the early 1970s and includes two branches, arcade video games and home video games. Arcade video games are large, expensive, coin-operated machines that are placed in high traffic areas such as amusement arcades. These machines are generally referred to as "dedicated" because they can play only one game. Home video games, in contrast, are small, relatively inexpensive devices that are easily connected to the antennae terminals of a standard television. The Magnavox Odyssey was the first home video game. It too was a dedicated system playing only one game which was referred to as the "ball and paddle" because a dot of light bounced between two player-controlled vertical lines.

In early 1974, the inventors of the patent in suit conceived of a new microprocessor-based home video game system that used modular plug-in units --replaceable, read-only memory, or ROM, cartridges - - to permit home video systems to play multiple games, including games with rotating images. The '555 patent on this invention issued to Alpex on May 31, 1977. The patented invention was commercialized in systems by Atari, Mattel, and Coleco.

In the early 1980s, Nintendo entered the home video game market with the Nintendo Entertainment System (NES). After the NES was featured at the 1985 Consumer Electronics Show, Alpex notified Nintendo of possible infringement of the '555 patent. Soon thereafter, in February 1986, Alpex filed suit against Nintendo for patent infringement. Over the next several years, Alpex and Nintendo conducted various pre-trial proceedings. During these proceedings, Nintendo requested certification of certain issues to this court for interlocutory appeal, which the district court granted. However, this court denied leave to appeal. Alpex Computer Corp. v. Nintendo of America Inc., Misc. No. 320 (Fed. Cir. Sept. 2, 1992).

In order to resolve the outstanding questions of claim construction prior to trial, the district court held an evidentiary hearing with the assistance of a special master. The special master issued an initial report making specific recommendations on claim construction, which the district court adopted in part for purposes of instructing the jury. Following a four-week liability trial, the jury returned a verdict for Alpex. After this liability verdict, Nintendo filed a motion for judgment as a matter of law (JMOL) as to infringement and validity or, in the alternative, for a new trial. The damages trial followed before the same jury. The jury awarded Alpex a royalty of 6% which, when computed on the stipulated \$3.4 billion of allegedly infringing products sold by Nintendo, resulted in a damage award of \$253,641,445. Nintendo again filed motions for JMOL or a new trial and for a remittitur on damages. Alpex moved for entry of judgment and an award of prejudgment interest. The district court denied all of Nintendo's post-trial motions and entered judgment for Alpex with prejudgment interest.

Nintendo now appeals the judgment as to validity, infringement, and damages, and Alpex cross- appeals the amount of damages.

## II.

The '555 patent claims a keyboard-controlled apparatus for producing video signals by means of random access memory (RAM) with storage positions corresponding to each discrete position of the raster for a standard television receiver. Figure 2 of the '555 patent depicts the structure of the invention, as follows:

The television raster comprises numerous discrete dots or bars, approximately 32,000, which the cathode ray beam illuminates on a standard cycle, which in turn creates the image on the television screen. The patented

invention requires sufficient RAM to accommodate each of the approximately 32,000 memory positions needed to represent the raster image. Thus, the RAM holds at least one “bit” of data for each position in the memory “map” of the raster. Accordingly, this video display system is called “bit-mapping.” The advantage of this system, as disclosed in the patent, is that it provides for the representation of every image within the raster RAM, or display RAM, and thereby provides greater control of the display for the manipulation of complex images and symbols. To achieve this flexibility, however, bit-mapping requires the construction of each image within the display RAM before display, a process that requires the microprocessor to erase and rewrite each image. Because the microprocessor must refresh the display RAM for each frame to show the movement of images, the operation of the system is slowed down.

The accused NES with its game cartridges is also an apparatus for producing video signals by means of storage positions corresponding to discrete positions of the raster for a standard television receiver. A trial exhibit illustrates the NES:

The video display system for the NES does not include RAM with storage positions corresponding to each discrete position of the raster. Instead, the NES utilizes a patented picture processing unit, or PPU, to perform the generation of images on the screen. The PPU receives pre-formed, horizontal slices of data and places each slice in one of eight shift registers, each of which can store a maximum of 8 pixels. These slices of data are then processed directly to the screen. The PPU repeats this process to assemble the initial image on the screen. Thereafter it repeats the process as necessary to form changes in images throughout the progression of the game. Nintendo refers to the PPU as an “on-the-fly” system. It is undisputed that the NES video display system, using shift registers to process slices of images (as opposed to entire screens), is a faster means of displaying movement of images on the video screen than the bit-mapping of the RAM-based system of the ‘555 patent.

The claims at issue are 12 and 13 of the ‘555 patent:

12. Apparatus for playing games by displaying and manipulating player and ball image devices on the screen of a display tube, comprising

first means for generating a video signal representing a linear player image device aligned in a first direction,

second means for generating a video signal representing a ball image device,

manually operable game control means, and

means responsive to said manually operable game control means for causing said first means to generate a video signal representing the player image device rotated so that it is aligned in a second direction different from said first direction.

13. Apparatus according to claim 12, wherein said means for causing includes programmed microprocessor means and a replaceable memory having program game instructions stored therein for controlling said microprocessor means, whereby different games may be played with said apparatus by replacing said replaceable memory.

The parties dispute the proper claim construction of independent claim 12 (and thus dependent claim 13) and specifically the meaning and scope of “means for generating a video signal.”

III.

Claim construction is a matter of law, which we review de novo. Markman v. Westview Instruments, Inc., 52 F.3d 967, 988, 34 USPQ2d 1321, 1337 (Fed. Cir. 1995) (in banc), aff’d, 116 S. Ct. 1384 (1996). Here, the district court submitted the issue of claim construction to a special master. The special master construed the

pertinent means-plus-function claims of the '555 patent based on the disclosed structure contained in the patent specification and drawings. See 35 U.S.C. ' 112, & 6 (1994). The following jury instruction with regard to the video display system claimed in the '555 patent was proposed by the special master:

The structure corresponding to the elements of claims 12 and 13 for generating a video signal is the Figure 2 components without the television receiver and the keyboard. These components cooperate together to create a video signal as follows: The linear player image device and the ball image device to be displayed on the video unit 30 are stored as data within ROM 42A. The "intelligence" of the system is provided by micro-processor 40. The operation of the micro-processor 40 is under the control of a program stored in ROM 42A. Micro-processor 40 causes this information in ROM 42A to be written into RAM 32 by using the write control circuit 38. RAM 32 has discrete storage positions which correspond to each of the bars or pixels of the TV screen. TV interface 36 causes display RAM address 34 to scan each of these storage positions in display RAM 32 to provide the video signal to the TV receiver 30.

Alternatively, the special master recommended leaving the issue of claim construction to the jury. The district court chose only to adopt the first sentence of the special master's recommended jury instruction, relegating the remainder of the claim construction issues to the jury.

After the jury returned a verdict of infringement, Nintendo challenged on motion for JMOL the interpretation that the jury appeared to give the claim in reaching its verdict, but the district court denied Nintendo's motion. The court seemed to adopt the entirety of the claim interpretation of the special master in ruling on the JMOL motion and held that there was sufficient evidence to support the jury's presumed claim construction. Nintendo argues that, by denying its JMOL, the district court approved an erroneous claim construction, allowing claims for a RAM-based, bit-map video display system to read on a device that used a shift register-based, on-the-fly video display system. [1](#)

Nintendo argues that the '555 patent requires the use of a RAM memory map for all of the 32,000 pixels in the raster, whereas the NES uses shift registers that only provide for a maximum of 64 pixels. Because of this difference in structure, Nintendo contends that there can be neither literal infringement nor infringement under the doctrine of equivalents. Nintendo further contends that Alpex is barred from claiming that the NES infringes the '555 patent because during prosecution Alpex distinguished the invention of the '555 patent from a relevant prior art patent using shift registers.

In prosecuting its patent application before the Patent and Trademark Office (PTO), Alpex specifically distinguished the RAM-based, bit-map video display structure of the '555 patent from a prior art patent, Okuda, which claimed a shift register-based video display structure. Alpex explained to the PTO that, unlike Alpex's bit-map system, the Okuda video display system comprised an entirely different structure than the Alpex system. Specifically, Alpex noted that Okuda was unable to modify selectively a single pixel on the screen. Alpex explained:

Applicants' display system utilizes a random access memory (RAM) 32 which is under the control of a micro-processor 40. When the keyboard is operated, as explained in the specification, micro-processor 40 extracts an appropriate image device from the read-only memory (ROM) 42A and transfers this particular image device directly into the appropriate location within the RAM 32. The random access capability is important since this enables the selected image device to be located directly in any desired area of the RAM 32.

Okuda, in contrast, does not use a random access memory but, instead, employs a series of shift registers as his refresh memory 17 which corresponds to applicants' RAM 32. Because random access to the shift registers is not possible, Okuda is unable to selectively modify a single bit in the memory 17 but, instead, must operate on a line at a time to modify the stored display data.

\* \* \*

Okuda contemplates modification of one line of data at a time and there is no provision for modifying a single “dot.” The random access techniques of applicants’ invention enables any single point on the TV screen to be altered at will (under control of the micro-processor).

The district court, adopting the recommendations of the special master, did not expressly consider these statements for purposes of claim construction. The special master’s report had noted that, because Alpex had made the above cited distinction with regard to claims not asserted by Alpex, this aspect of the prosecution history could not be used for purposes of prosecution history estoppel. Nintendo contends that the statements regarding the Okuda prior art patent were relevant and should have been considered for purposes of claim construction even though they may not give rise to prosecution history estoppel as to asserted claims 12 and 13. Alpex says nothing about the Okuda patent with regard to claim construction. It only argues that Nintendo waived any argument pertaining to Okuda for purposes of prosecution history estoppel.

#### IV.

Prosecution history is relevant not only for purposes of prosecution history estoppel but also for construing the meaning and scope of the claims. See Moleculon Research Corp. v. CBS, Inc., 793 F.2d 1261, 1270, 229 USPQ 805, 811 (Fed. Cir. 1986) (“While it is true that the effect of prosecution history arises as an estoppel when applying infringement analysis under the doctrine of equivalents, the prosecution history can and should, where relevant, be assessed (along with, e.g., claim language and specification) in properly interpreting claim language.” (citations omitted)); McGill Inc. v. John Zink Co., 736 F.2d 666, 673, 221 USPQ 944, 949 (Fed. Cir. 1984) (“Prosecution history may be used not only in an estoppel context but also as a claim construction tool.”), overruled on other grounds, Markman, 52 F.3d at 976, 979, 34 USPQ2d at 1327, 1329. Indeed, prosecution history is a proper claim construction tool. See Markman, 52 F.3d at 980, 34 USPQ2d at 1330 (“To construe claim language, the court should consider the patent’s prosecution history. . . .”); Builders Concrete, Inc. v. Bremerton Concrete Prods. Co., 757 F.2d 255, 260, 225 USPQ 240, 243 (Fed. Cir. 1985) (A[T]he prosecution history of all claims is not insulated from review in connection with determining the fair scope of [a] claim . . . . To hold otherwise would be to exalt form over substance and distort the logic of this jurisprudence, which serves as an effective and useful guide to the understanding of patent claims.”).

In this case, the Okuda patent is directly relevant to claim construction. The prosecution history of the > 555 patent shows that the examiner rejected claim 1 of the application as being anticipated by Okuda. Claim 1 specified a series of limitations in means-plus-function format to a display control apparatus utilizing a RAM-based, bit-map system. Alpex distinguished Okuda before the PTO based on the structural difference of a RAM-based versus a shift register-based video display system: “Claim 1, as amended, now clearly distinguishes over Okuda. The claim requires a random access memory which, as indicated previously, is not disclosed in Okuda.” The special master gave no weight to the statements made by Alpex regarding Okuda because the statements concerned different claims. The district court apparently adopted this reasoning, but we discern no reason why prosecution history relating to the structure of the video display in the means-plus-function limitations of claim 1 is not pertinent to the same structure of the same display system in the means-plus-function limitations of claims 12 and 13. Paragraph 6 of Section 112 requires that we construe a means-plus-function claim in view of the structure disclosed in the specification of the patent. Intellicall, Inc. v. Phonometrics, Inc., 952 F.2d 1384, 1388, 21 USPQ 1383, 1387 (Fed. Cir. 1992); In re Iwahashi, 888 F.2d 1370, 1375, 12 USPQ2d 1908, 1911 (Fed. Cir. 1989). Statements made during the prosecution relating to structures disclosed in the specification are certainly relevant to determining the meaning of the means-plus-function limitations of the claims at issue.

The district court recognized that claims 12 and 13, and the specification of the ‘555 patent, call for the use of a RAM-based, bit-map video display system. Moreover, the statements made by Alpex during prosecution with regard to the Okuda prior art patent emphasize that Alpex claimed a video display system based on the use of RAM capable of modifying a single bit, or pixel, on the television receiver. These statements

distinguish any video display system based on shift registers, as shift registers do not allow the selective modification of a single bit in memory, that is, a single pixel. It is undisputed that the NES utilized this type of video display system. Indeed, Alpex's own technical expert, Mr. Milner, testified that the NES utilized shift registers, not RAM. Further, Mr. Milner explained that the NES could not directly modify a single pixel. Thus, Mr. Milner's testimony confirms that random access capability is not possible by use of shift registers. In short, the structure and operation of the NES paralleled the structure and operation of the Okuda video display system.

Alpex attempts to distinguish Okuda from the NES because Okuda only allows the modification of horizontal lines on the raster, whereas the NES allows the modification of any 8-bit slice on the raster. This distinction, however, affects neither the structural similarities (both Okuda and the NES use shift registers) nor the pertinent functional similarities (both Okuda and the NES cannot modify a single pixel). Therefore, because Alpex admitted during prosecution that its claims do not cover a video display system based on shift registers as in Okuda, *i.e.*, it argued that a system based on shift registers is not structurally or functionally equivalent to a RAM based system that can randomly access a single bit, Alpex's claims cannot now be construed to cover the NES, which possesses the same structural and functional traits as Okuda.

## V.

On the jury verdict form, Interrogatory 1 asked the following: "Do you find that claims 12 and 13 require a structure that includes a display RAM which has discrete storage positions which correspond to each of the bars or pixels of the TV screen?" The jury answered this question in the affirmative. This response is consistent with and supported by the prosecution history of the '555 patent.

The jury then found that the accused products, the NES and most of its accompanying game cartridges, infringed claims 12 and 13 of the 555 patent, implicitly finding structural equivalence between a RAM-based, bit-map video display system and a shift register-based, NES system under § 112, & 6. The district court determined that these findings were supported by substantial evidence and denied the motion for JMOL. *See Kearns v. Chrysler Corp.*, 32 F.3d 1541, 1547-48, 31 USPQ2d 1746, 1751 (Fed. Cir. 1994) (deeming reversal proper "only if the jury's factual findings, presumed or express, are not supported by substantial evidence or, if they are, that the legal conclusions implied from the jury's verdict cannot in law be supported by those findings"); *Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 893, 221 USPQ 669, 673 (Fed. Cir. 1984) ("[O]nly when the court is convinced upon the record before the jury that reasonable persons would not have reached a verdict for the non-mover, should it grant the motion for [JMOL]."). We review the district court's JMOL ruling applying the same standard. *Read Corp. v. Portec, Inc.*, 970 F.2d 816, 821, 23 USPQ2d 1426, 1431 (Fed. Cir. 1992).

The district court held that Nintendo had literally infringed claims 12 and 13 of the '555 patent based primarily on the testimony of Alpex's expert Mr. Milner that the distinction between a bit-map system and the NES "is insignificant and insufficient to defeat a claim of equivalence under section 112(6)." Accordingly, the district court concluded that the NES is not only a functional equivalent but also a structural equivalent to the bit-map structure. For the reasons stated above, however, the NES cannot infringe claims 12 and 13 of the '555 patent as equivalents under § 112, 6, under a proper claim construction.

"As in all cases involving assertions of equivalency, wherein the patentee seeks to apply its [means-plus-function] claims to structures not disclosed by the patentee, the court is required to exercise judgment." *Texas Instruments, Inc. v. United States Int'l Trade Comm'n*, 846 F.2d 1369, 1371, 6 USPQ2d 1886, 1889 (Fed. Cir. 1988). If an applicant specifically distinguishes a structure from what is claimed during prosecution, the applicant will be estopped from asserting a scope for the same claim that covers that structure. *Cf. Sofamor Danek Group, Inc. v. DePuy-Motech, Inc.*, 74 F.3d 1216, 1220, 37 USPQ2d 1529, 1531 (Fed. Cir. 1996). During the prosecution of the '555 patent, Alpex described the means-plus-function limitation under ' 112, & 6, as not covering a shift register-based video display system. On JMOL, the district court endorsed a

contrary claim interpretation thereby allowing, in error, Alpex to avoid limitations made before the PTO. Just as prosecution history estoppel may act to estop an equivalence argument under the doctrine of equivalents, positions taken before the PTO may bar an inconsistent position on claim construction under § 112, 6. See, e.g., Advance Transformer Co. v. Levinson, 837 F.2d 1081, 1083, 5 USPQ2d 1600, 1602 (Fed. Cir. 1988) (“Positions taken in order to obtain allowance of an applicant’s claims are pertinent to an understanding and interpretation of the claims that are granted by the PTO, and may work an estoppel as against a subsequent different or broader interpretation.”).

Moreover, while Mr. Milner’s testimony purports to be an analysis of the structure of the specification and the accused device, it actually provides no more than an analysis of functional equivalency. Mr. Milner described the shift registers of the NES as storing “just one little slice of an object” to be imaged; whereas he said the bit-map system “stores the whole screen.” He concluded that displaying a slice of an object is equivalent to displaying the “whole screen.” Specifically, Mr. Milner testified that “the reason they are equivalent is by storing one line at a time and using it over and over and over again very quickly you can do the same thing.” Thus, Mr. Milner concluded that by repeating the NES process the entire screen will eventually be imaged as is done with the bit map system. This is a conclusion, however, of equivalency of function -- both systems store data and will eventually display an image on the whole screen. Mr. Milner did not compare the structure of the NES with the bit map structure disclosed in the specification. Moreover, the bit map structure was clearly distinguished over a shift register structure during the prosecution of the ‘555 patent.

Because Alpex defined its claims during the prosecution of the ‘555 patent as not covering a system using shift registers and because the testimony relied on by Alpex to establish infringement under § 112, 6, was based only on a functional, not a structural, analysis, we conclude the court erred in sustaining the jury verdict of literal infringement.

## VI.

The district court also denied Nintendo’s motion for JMOL on the issue of infringement under the doctrine of equivalents primarily based on its conclusion that the jury could reasonably have found infringement under § 112, & 6. The court reasoned that equivalence under the doctrine of equivalents is a slightly broader concept than equivalence under § 112, & 6, and that, as a result, its discussion of equivalence for literal infringement applied equally to infringement under the doctrine of equivalents.

While equivalency under the doctrine of equivalents and equivalency under § 112, & 6, both relate to insubstantial changes, each has a separate origin, purpose and application. Valmont Indus., Inc. v. Reinke Mfg. Co., 983 F.2d 1039, 1043-44, 25 USPQ2d 1451, 1454 (Fed. Cir. 1993). Under § 112, the concern is whether the accused device, which performs the claimed function, has the same or an equivalent structure as the structure described in the specification corresponding to the claim’s means. D.M.I. Inc. v. Deere & Co., 755 F.2d 1570, 1575, 225 USPQ 236, 239 (Fed. Cir. 1985). Under the doctrine of equivalents, on the other hand, the question is whether the accused device is only insubstantially different than the claimed device. Hilton Davis Chem. Co. v. Warner-Jenkinson Co., 62 F.3d 1512, 1517, 35 USPQ2d 1641, 1644-45 (Fed. Cir. 1995) (in banc), cert. granted, 116 S. Ct. 1014 (1996). The latter question often turns on whether the accused device performs substantially the same function in substantially the same way to achieve substantially the same result. See id. at 1518, 35 USPQ2d at 1645.

In this case, the court concluded, based on the testimony of Alpex’s expert, Mr. Milner, that the jury’s finding of infringement under the doctrine of equivalents was supported by substantial evidence. However, Mr. Milner’s testimony that the claimed and accused devices were substantially the same in terms of function/way/result was merely conclusory as acknowledged by the district court. However, the court said that Mr. Milner’s conclusory statements on function/way/result, when considered with his testimony in relation to infringement under the § 112, & 6, were sufficient to establish infringement under the doctrine of equivalents.

As discussed earlier, however, Mr. Milner's testimony concerning § 112, & 6, only related to equivalence of the functional result. Neither he nor the court considered whether the accused device and the claimed device operated in substantially the same way. Indeed, in describing equivalency for § 112, & 6, purposes, Mr. Milner acknowledged that the accused and claimed devices do not operate in the same way. For example, Mr. Milner testified that the bit map system creates an image by copying the bit map (the entire stored image) into the display RAM and then reading out the entire image onto the full screen. On the other hand, he explained that the NES creates an image by taking a piece of the image, placing it in temporary storage, and then reading only that piece of the image onto the screen. According to Mr. Milner, by repeating this process "a little bit at a time" until the entire image is placed on the screen, the NES can achieve the same functional result as the bit-map system. This testimony does not support a conclusion that the claimed system and the NES operate in substantially the same way.

The evidence in this case, therefore, does not support a finding of infringement under the doctrine of equivalents. The evidence fails to establish that the claimed and accused devices operate in the same way or that the differences between them are insubstantial. As discussed above, Alpex described its claims during the prosecution of the '555 patent as covering random access systems capable of changing a single bit. It did not and could not claim image generation by shift registers. As the Supreme Court has explained, the purpose of the doctrine of equivalents is to prevent others from avoiding the patent by merely making "unimportant and insubstantial changes and substitutions in the patent." Graver Tank, 339 U.S. at 610. It is not meant to cover systems that are clearly defined as outside the bounds of the claims. In this case, using shift registers, instead of RAM, to process data for video display, is not merely an unimportant and insubstantial change.

Accordingly, because there is a lack of substantial evidence to support a finding of infringement either literally or under the doctrine of equivalents, the district court's judgment as to infringement and damages is reversed. Alpex's cross-motion on damages is, therefore, moot.

## VII.

Nintendo also challenges the jury's finding that the '555 patent is not invalid. On JMOL, the district court made an exhaustive thirty-two page review of Nintendo's arguments relating to invalidity. We have carefully considered Nintendo's arguments and the district court's opinion on this issue and discern no error. Accordingly we affirm the judgment as to validity.

No costs.

AFFIRMED-IN-PART and REVERSED-IN-PART

## Footnotes

<sup>1</sup> Nintendo also challenges two other issues of claim construction in the '555 patent, including whether the claim term "linear player image" was properly construed and whether the patent required an on-board ROM. In view of our holding herein, we need not decide these other claim construction issues.

<sup>2</sup> Mr. Milner testified that "if we want to display an image on the screen using the bit-map technique that is described in the '555 patent, what we do is we make a copy ahead of time of this bit-map into this display RAM. And essentially what we do is we have locations in this RAM corresponding to each position on the screen." He went on to describe that "a full screen bit-map transfers an image that is stored in this memory, loaded by the microprocessor into this display RAM, put out on to the TV screen at the right time to make the picture of the little guy."

<sup>3</sup> Mr. Milner said about the NES system that "[t]hey don't hold the whole line. One of them holds this top line here, the other one holds this blank top line here. When the beam is going across and it's time to display



these when the positions match, this little bit of information that had been in this temporary shift register gets spit out, goes through some additional circuitry and turns the beam on and off on the screen to paint the top of his head.”

4 Specifically, Mr. Milner said that if the NES process is performed “over and over,” it also will have put an entire image on the screen. As he described “[w]e do one line and then the next and then the next, using the same hardware over and over, but still storing it until -- little bit at a time -- until we have put the entire image out to the screen.”

Mr. Milner testified that “if we want to display an image on the screen using the bit-map technique that is described in the ‘555 patent, what we do is we make a copy ahead of time of this bit-map into this display RAM. And essentially what we do is we have locations in this RAM corresponding to each position on the screen.” He went on to describe that “a full screen bit-map transfers an image that is stored in this memory, loaded by the microprocessor into this display RAM, put out on to the TV screen at the right time to make the picture of the little guy.” Mr. Milner said about the NES system that “[t]hey don’t hold the whole line. One of them holds this top line here, the other one holds this blank top line here. When the beam is going across and it’s time to display these when the positions match, this little bit of information that had been in this temporary shift register gets spit out, goes through some additional circuitry and turns the beam on and off on the screen to paint the top of his head.” Specifically, Mr. Milner said that if the NES process is performed “over and over,” it also will have put an entire image on the screen. As he described “[w]e do one line and then the next and then the next, using the same hardware over and over, but still storing it until -- little bit at a time -- until we have put the entire image out to the screen.”

Sega Enterprises Ltd. v. Accolade Inc., 24 USPQ2D 1561 (9th Cir. 1992)

**Sega Enterprises Ltd. v. Accolade Inc.**

**U.S. Court of Appeals Ninth Circuit  
977 F2d 1510  
24 USPQ2D 1561  
No. 92-15655**

**Decided October 20, 1992**

**Headnotes**

**COPYRIGHTS**

**[1] Protectability of computer products -- Object codes, source codes, and non-code elements (§ 225.05)**

**Protectability of computer products -- Infringement (§ 225.07)**

Intermediate copying of computer object code may constitute infringement, regardless of whether end product of copying is substantially similar to copyrighted work.

**[2] Protectability of computer products -- Object codes, source codes, and non-code elements (§ 225.05)**

Disassembly of computer object code cannot be held lawful per se based upon assertion that such disassembly is necessary in order to gain access to ideas and functional concepts embodied within code, which themselves are not protected, since object code itself is eligible for full range of copyright protection.

**[3] Protectability of computer products -- Infringement (§ 225.07)**

Copyright Act's Section 117, which allows lawful owner of copy of computer program to copy or adapt program if new copy is created "as an essential step" in utilization of program and "is used in no other manner," does not protect user who disassembles object code, converts it from assembly into source code, and makes printouts and photocopies of refined source code version.

**[4] Protectability of computer products -- Semiconductor Chip Protection Act (§ 225.03)**

**Protectability of computer products -- Object codes, source codes, and non-code elements (§ 225.05)**

Express authorization, as set forth in Semiconductor Chip Protection Act, 17 USC 906, of copying of "mask work" on silicon chip in course of reverse engineering does not mean that other forms of copying of computer programs are therefore prohibited.

**[5] Rights in copyright; infringement -- Fair use -- Factors governing fair use (§ 213.1503)**

**Protectability of computer products -- Object codes, source codes, and non-code elements (§ 225.05)**

Fact that defendant copied plaintiff's computer object code in order to produce competing product gives rise to presumption that use was not fair but does not automatically preclude finding of fair use, since other aspects of "purpose and character" of use must also be considered; defendant has overcome such presumption by evidence showing that its copying was done solely to discover functional requirements for compatibility of video game cartridges with plaintiff's video game console, and that such copying led to increase in number of independently-designed video game programs offered for use with plaintiff's console, which reflects growth in creative expression that Copyright Act is intended to promote.

**[6] Rights in copyright; infringement -- Fair use -- Factors governing fair use (§ 213.1503)**

**Protectability of computer products -- Object codes, source codes, and non-code elements (§ 225.05)**

Disassembly of computer object code, which necessarily entails copying, cannot be held to be per se unfair use, since such disassembly is necessary in order to understand functional specifications, and since such per se rule would thereby grant copyright owner de facto monopoly over those functional specifications, which are expressly denied copyright protection pursuant to 17 USC 102(b).

**[7] Rights in copyright; infringement -- Fair use -- Factors governing fair use (§ 213.1503)**

**Protectability of computer products -- Object codes, source codes, and non-code elements (§ 225.05)**

Disassembly of computer object code is fair use if such disassembly is only way in which to gain access to ideas and functional elements embodied in copyrighted computer program, and if legitimate reason exists for seeking such access.

**TRADEMARKS AND UNFAIR TRADE PRACTICES**

**[8] Infringement; conflicts between marks -- Likelihood of confusion -- In general (§ 335.0301)**

## Full Text of Cases (USPQ2d)

Likelihood of confusion that arises from use of plaintiff's trademark security system initialization code, which not only enables video game programs to operate on plaintiff's video game console but which also displays plaintiff's "Sega" mark even when game is manufactured by defendant competitor, is attributable to plaintiff, not to defendant, since defendant used initialization code only because it wanted to gain access for its game products to plaintiff's console and was aware of no other means for doing so, and since such objective was legitimate and lawful.

### [9] Types of marks -- Trade dress as mark -- Functionality (§ 327.0706)

Manufacturer of video game cartridges and console has failed to demonstrate non-functionality of its trademark security system initialization code, which enables video game programs to operate on plaintiff's video game console and which also displays plaintiff's "Sega" mark, even on cartridges manufactured by competitors, since there is no other known means of access to plaintiff's console without use of initialization code.

### Case History and Disposition

Appeal from the U.S. District Court for the Northern District of California, Caulfield, J.; 23 USPQ2d 1440.

Action by Sega Enterprises Ltd. against Accolade Inc. for copyright infringement, trademark infringement, and unfair competition, in which defendant counterclaimed for false designation of origin and unfair competition. From federal district court decision granting plaintiff's motion for a preliminary injunction, defendant appeals. Affirmed in part, *reversed* in part, and *remanded*.

### Attorneys:

William S. Coats, of Gibson, Dunn & Crutcher, San Francisco, Calif., for appellant.

Joel Linzner, of Crosby, Heafey, Roach & May, Oakland, Calif., for appellee.

Dennis S. Karjala, Arizona State University, Tempe, Ariz., for amicus curiae Copyright Law Professors.

Peter M.C. Choy, Mountain View, Calif., and Paul Goldstein, Stanford, Calif., for amicus curiae American Committee for Interoperable Systems.

John Haven Chapman, of Chapman, Moran, Hubbard, Glazer & Zimmerman, Stamford, Conn.; Thomas N. White, Santa Clara, Calif., for amicus curiae Computer and Communications Industry Association.

Morton David Goldberg, of Schwab, Goldberg, Price & Dannay, New York, N.Y., for amicus curiae Computer & Business Equipment Manufacturers Association et al.

### Judge:

Before Canby, Reinhardt, and Leavy, circuit judges.

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## Opinion Text

### Opinion By:

Reinhardt, J.

This case presents several difficult questions of first impression involving our copyright and trademark laws. <sup>1</sup>We are asked to determine, first, whether the Copyright Act permits persons who are neither copyright holders nor licensees to disassemble a copyrighted computer program in order to gain an understanding of the unprotected functional elements of the program. In light of the public policies underlying the Act, we conclude that, when the person seeking the understanding has legitimate reason for doing so and when no other means of access to the unprotected elements exists, such disassembly is as a matter of law a fair use of the copyrighted work. Second, we must decide the legal consequences under the Lanham Trademark Act of a computer manufacturer's use of a security system that affords access to its computers to software cartridges that include an initialization code which triggers a screen display of the computer manufacturer's trademark. The computer manufacturer also manufactures software cartridges; those cartridges all contain the initialization code. The question is whether the computer manufacturer may enjoin competing cartridge manufacturers from gaining access to its computers through the use of the code on the ground that such use will result in the display of a "false" trademark. Again, our holding is based on the public policies underlying the statute. We hold that when there is no other method of access to the computer that is known or readily available to rival cartridge manufacturers, the use of the initialization code by a rival does not violate the Act even though that use triggers a misleading trademark display. Accordingly, we reverse the district court's grant of a

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preliminary injunction in favor of plaintiff-appellee Sega Enterprises, Ltd. on its claims of copyright and trademark infringement. We decline, however, to order that an injunction *pendente lite* issue precluding Sega from continuing to use its security system, even though such use may result in a certain amount of false labeling. We prefer to leave the decision on that question to the district court initially.

### I. Background

Plaintiff-appellee Sega Enterprises, Ltd. ("Sega"), a Japanese corporation, and its subsidiary, Sega of America, develop and market video entertainment systems, including the "Genesis" console (distributed in Asia under the name "Mega-Drive") and video game cartridges. Defendant-appellant Accolade, Inc., is an independent developer, manufacturer,

## Full Text of Cases (USPQ2d)

and marketer of computer entertainment software, including game cartridges that are compatible with the Genesis console, as well as game cartridges that are compatible with other computer systems.

Sega licenses its copyrighted computer code and its "SEGA" trademark to a number of independent developers of computer game software. Those licensees develop and sell Genesis-compatible video games in competition with Sega. Accolade is not and never has been a licensee of Sega. Prior to rendering its own games compatible with the Genesis console, Accolade explored the possibility of entering into a licensing agreement with Sega, but abandoned the effort because the agreement would have required that Sega be the exclusive manufacturer of all games produced by Accolade.

Accolade used a two-step process to render its video games compatible with the Genesis console. First, it "reverse engineered" Sega's video game programs in order to discover the requirements for compatibility with the Genesis console. As part of the reverse engineering process, Accolade transformed the machine-readable object code contained in commercially available copies of Sega's game cartridges into human-readable source code using a process called "disassembly" or "decompilation".<sup>2</sup> Accolade purchased a Genesis console and three Sega game cartridges, wired a decompiler into the console circuitry, and generated printouts of the resulting source code. Accolade engineers studied and annotated the printouts in order to identify areas of commonality among the three game programs. They then loaded the disassembled code back into a computer, and experimented to discover the interface specifications for the Genesis console by *modifying* the programs and studying the results. At the end of the reverse engineering process, Accolade created a development manual that incorporated the information it had discovered about the requirements for a Genesis-compatible game. According to the Accolade employees who created the manual, the manual contained only functional descriptions of the interface requirements and did not include any of Sega's code.

In the second stage, Accolade created its own games for the Genesis. According to Accolade, at this stage it did not copy Sega's programs, but relied only on the information concerning interface specifications for the Genesis that was contained in its development manual. Accolade maintains that with the exception of the interface specifications, none of the code in its own games is derived in any way from its examination of Sega's code. In 1990, Accolade released "Ishido", a game which it had originally developed and released for use with the Macintosh and IBM personal computer systems, for use with the Genesis console.

Even before Accolade began to reverse engineer Sega's games, Sega had grown concerned about the rise of software and hardware piracy in Taiwan and other Southeast Asian countries to which it exported its products. Taiwan is not a signatory to the Berne Convention and does not recognize foreign copyrights. Taiwan does allow prosecution of trademark counterfeiters. However, the counterfeiters had discovered how to modify Sega's game programs to blank out the screen display of Sega's trademark before repackaging and reselling the games as their own. Accordingly, Sega began to explore methods of protecting its trademark rights in

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the Genesis and Genesis-compatible games. While the development of its own trademark security system (TMSS) was pending, Sega licensed a patented TMSS for use with the Genesis home entertainment system.

The most recent version of the Genesis console, the "Genesis III", incorporates the licensed TMSS. When a game cartridge is inserted, the microprocessor contained in the Genesis III searches the game program for four bytes of data consisting of the letters "S-E-G-A" (the "TMSS initialization code"). If the Genesis III finds the TMSS initialization code in the right location, the game is rendered compatible and will operate on the console. In such case, the TMSS initialization code then prompts a visual display for approximately three seconds which reads "PRODUCED BY OR UNDER LICENSE FROM SEGA ENTERPRISES LTD" (the "Sega Message"). All of Sega's game cartridges, including those disassembled by Accolade, contain the TMSS initialization code.

Accolade learned of the impending release of the Genesis III in the United States in January, 1991, when the Genesis III was displayed at a consumer electronics show. When a demonstration at the consumer electronics show revealed that Accolade's "Ishido" game cartridges would not operate on the Genesis III, Accolade returned to the drawing board. During the reverse engineering process, Accolade engineers had discovered a small segment of code -- the TMSS initialization code -- that was included in the "power-up" sequence of every Sega game, but that had no identifiable function. The games would operate on the original Genesis console even if the code segment was removed. Mike Lorenzen, the Accolade engineer with primary responsibility for reverse engineering the interface procedures for the Genesis console, sent a memo regarding the code segment to Alan Miller, his supervisor and the current president of Accolade, in which he noted that "it is possible that some future Sega peripheral device might require it for proper initialization."

In the second round of reverse engineering, Accolade engineers focused on the code segment identified by Lorenzen. After further study, Accolade added the code to its development manual in the form of a standard header file to be used in all games. The file contains approximately twenty to twenty-five bytes of data. Each of Accolade's games contains a total of 500,000 to 1,500,000 bytes. According to Accolade employees, the header file is the only portion of Sega's Code that Accolade copied into its own game programs.

In 1991, Accolade released five more games for use with the Genesis III, "Star Control", "Hardball!", "Onslaught", "Turrican", and "Mike Ditka Power Football." With the exception of "Mike Ditka Power Football", all of those games, like "Ishido", had originally been developed and marketed for use with other hardware systems. All contained the standard header file that included the TMSS initialization code. According to Accolade, it did not learn until after the Genesis III was released on the market in September, 1991, that in addition to enabling its software to operate on the Genesis III, the header file caused the display of the Sega Message. All of the games except "Onslaught" operate on the Genesis III console; apparently, the programmer who translated "Onslaught" for use with the Genesis system did not place the TMSS initialization code at the correct location in the program.

All of Accolade's Genesis-compatible games are packaged in a similar fashion. The front of the box displays Accolade's "Ballistic" trademark and states "for use with Sega Genesis and



Mega Drive Systems." The back of the box contains the following statement: "Sega and Genesis are registered trademarks of Sega Enterprises, Ltd. Game 1991 Accolade, Inc. All rights reserved, Ballistic is a trademark of Accolade, Inc. Accolade, Inc. is not associated with Sega Enterprises, Ltd. All product and corporate names are trademarks and registered trademarks of their respective owners."

Sega filed suit against Accolade on October 31, 1991, alleging trademark infringement and false designation of origin in violation of sections 32(1) and 43(a) of the Lanham Act, 15 U.S.C. Sections 1114 (a)(1), 1125(a).<sup>3</sup> On November 29, 1991, Sega amended its complaint to include a claim for copyright infringement. Accolade filed a counterclaim against Sega for false designation of origin under section 43(a) of the Lanham Act, 15 U.S.C. Section 1125(a).<sup>4</sup> The

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parties filed cross-motions for preliminary injunctions on their respective claims.

After expedited discovery and a hearing, the district court granted Sega's motion. Prior to the hearing, Sega introduced the declaration of Takeshi Nagashima, an employee of Sega. Nagashima stated that it was possible either to create a game program which did not contain the TMSS code but would still operate on the Genesis III, or to modify a game program so that the Sega Message would not appear when the game cartridge was inserted. Nagashima stated that he had been able to make both modifications using standard components, at a total extra cost of approximately fifty cents. At the hearing, counsel for Sega produced two game cartridges which, he represented, contained the modifications made by Nagashima, and demonstrated to the district judge that the Sega Message did not appear when the cartridges were inserted into a Genesis III console. Sega offered to make the cartridges available for inspection by Accolade's counsel, but declined to let Accolade's software engineers examine the cartridges or to reveal the manner in which the cartridges had been *modified*. The district court concluded that the TMSS code was not functional and that Accolade could not assert a functionality defense to Sega's claim of trademark infringement.

With respect to Sega's copyright claim, the district court rejected Accolade's contention that intermediate copying of computer object code does not constitute infringement under the Copyright Act. It found that Accolade had disassembled Sega's code for a commercial purpose, and that Sega had likely lost sales of its games as a result of Accolade's copyright. The court further found that there were alternatives to disassembly that Accolade could have used in order to study the functional requirements for Genesis compatibility. Accordingly, it also rejected Accolade's fair use defense to Sega's copyright infringement claim.

Based on its conclusion that Sega is likely to succeed on the merits of its claims for copyright and trademark infringement, on April 3, 1992, the district court enjoined Accolade from: (1) disassembling Sega's copyrighted code; (2) using or *modifying* Sega's copyrighted code; (3) developing, manufacturing, distributing, or selling Genesis-compatible games that were created in whole or in part by means that included disassembly; and (4) manufacturing, distributing, or selling any Genesis-compatible game that prompts the Sega

Message. On April 9, 1992, in response to a request from Sega, the district court *modified* the preliminary injunction order to require the recall of Accolade's infringing games within ten business days.

On April 14, 1992, Accolade filed a motion in the district court for a stay of the preliminary injunction pending appeal. When the district court failed to rule on the motion for a stay by April 21, ten business days after the April 9 recall order, Accolade filed a motion for an emergency stay in this court pursuant to 9th Cir.R. 27-3, together with its notice of appeal. On April 23, we stayed the April 9 recall order. The April 3 preliminary injunction order remained in effect until August 28, when we ordered it dissolved and announced that this opinion would follow.

## **II. Standard of Review**

In order to obtain a preliminary injunction, the movant must demonstrate "either a likelihood of success on the merits and the possibility of irreparable injury, or that serious questions going to the merits were raised and the balance of hardships tips sharply in its favor." *Johnson Controls, Inc. v. Phoenix Control Systems, Inc.*, 886 F.2d 1173, 1174 [12 USPQ2d 1566 ] (9th Cir. 1989). We may reverse the district court's grant of a preliminary injunction to Sega if the district court abused its discretion, made an error of law, or based its decision on an erroneous legal standard or on clearly erroneous findings of fact. *Religious Technology Ctr. v. Scott*, 869 F.2d 1306, 1309 [ 10 USPQ2d 1379] (9th Cir. 1989); *Lou v. Belzberg*, 834 F.2d 730, 733 (9th Cir. 1987), *cert. denied*, 485 U.S. 993 (1988).

## **III. Copyright Issues**

Accolade raises four arguments in support of its position that disassembly of the object code in a copyrighted computer program does not constitute copyright infringement. First, it maintains that intermediate copying does not infringe the exclusive rights granted to copyright owners in section 106 of the Copyright Act unless the end product of the copying is substantially similar to the copyrighted work. Second, it argues that disassembly of object code in order to gain an understanding of the ideas and functional concepts embodied in the code is lawful under section 102(b) of the Act, which exempts ideas and functional concepts from copyright protection. Third, it suggests that disassembly

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is authorized by section 117 of the Act, which entitles the lawful owner of a copy of a computer program to load the program into a computer. Finally, Accolade contends that disassembly of object code in order to gain an understanding of the ideas and functional concepts embodied in the code is a fair use that is privileged by section 107 of the Act.

Neither the language of the Act nor the law of this circuit supports Accolade's first three arguments. Accolade's fourth argument, however, has merit. Although the question is fairly debatable, we conclude based on the policies underlying the Copyright Act that disassembly of copyrighted object code is, as a matter of law, a fair use of the copyrighted work if such disassembly provides the only means of access to those elements of the code that are not protected by copyright and the copier has a legitimate reason for seeking such access.

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Accordingly, we hold that Sega has failed to demonstrate a likelihood of success on the merits of its copyright claim. Because on the record before us the hardships do not tip sharply (or at all) in Sega's favor, the preliminary injunction issued in its favor must be dissolved, at least with respect to that claim.

### A. Intermediate Copying

We have previously held that the Copyright Act does not distinguish between unauthorized copies of a copyrighted work on the basis of what stage of the alleged infringer's work the unauthorized copies represent. *Walker v. University Books*, 602 F.2d 859, 864 [ 202 USPQ 793 ] (9th Cir. 1979) (" [T]he fact that an allegedly infringing copy of a protected work may itself be only an inchoate representation of some final product to be marketed commercially does not in itself negate the possibility of infringement."). Our holding in *Walker* was based on the plain language of the Act. Section 106 grants to the copyright owner the exclusive rights "to reproduce the work in copies", "to prepare derivative works based upon the copyrighted work", and to authorize the preparation of copies and derivative works. 17 U.S.C. Section 106(1)-(2). Section 501 provides that " [a]nyone who violates any of the exclusive rights of the copyright owner as provided by sections 106 through 118 . . . is an infringer of the copyright." *Id.* Section 501(a). On its face, that language unambiguously encompasses and proscribes "intermediate copying". *Walker*, 602 F.2d at 864-64; see also *Walt Disney Productions v. Filmation Associates*, 628 F.Supp. 871, 875-76 [230 USPQ 524 ] (C.D. Cal. 1986).

In order to constitute a "copy" for purposes of the Act, the allegedly infringing work must be fixed in some tangible form, "from which the work can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device." 17 U.S.C. Section 101. The computer file generated by the disassembly program, the printouts of the disassembled code, and the computer files containing Accolade's modifications of the code that were generated during the reverse engineering process all satisfy that requirement. The intermediate copying done by Accolade therefore falls squarely within the category of acts that are prohibited by the statute.

Accolade points to a number of cases that it argues establish the lawfulness of intermediate copying. Most of the cases involved the alleged copying of books, scripts, or literary characters. See *v. Durang*, 711 F.2d 141 [219 USPQ 771] (9th Cir. 1983); *Warner Bros. v. ABC*, 654 F.2d 204 [211 USPQ 97 ] (2d Cir. 1981); *Miller v. Universal City Studios, Inc.*, 650 F.2d 1365 [ 212 USPQ 345] (5th Cir. 1981); *Walker v. Time Life Films, Inc.*, 615 F.Supp. 430 [ 227 USPQ 698] (S.D.N.Y. 1985), *aff'd*, 784 F.2d 44 [228 USPQ 505] (2d Cir.), *cert. denied*, 476 U.S. 1159 (1986); *Davis v. United Artists, Inc.*, 547 F.Supp. 722 (S.D.N.Y. 1982); *Fuld v. NBC*, 390 F.Supp. 877 [185 USPQ 460 ] (S.D.N.Y. 1975); *Cain v. Universal Pictures Co.*, 47 F.Supp. 1013 [ 56 USPQ 47 ] (S.D. Cal. 1942). In each case, however, the eventual lawsuit alleged infringement only as to the final work of the defendants. We conclude that this group of cases does not alter or limit the holding of *Walker*.

The remaining cases cited by Accolade, like the case before us, involved intermediate copying of computer code as an initial step in the development of a competing product. *Computer Assoc. Int'l v. Altai, Inc.*, 23 U.S.P.Q.2d (BNA) 1241 (2d Cir. 1992) ("CAI"); *NEC Corp. v. Intel Corp.*, 10 U.S.P.Q.2d 1177 (N.D. Cal. 1989); *E.F. Johnson Co. v. Uniden*

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*Corp.*, 623 F.Supp. 1485 [ 228 USPQ 891 ] (D. Minn. 1985). In each case, the court based its determination regarding infringement solely on the degree of similarity between the allegedly infringed work and the defendant's final product. A close reading of those cases, however, reveals that in none of them was the legality of the intermediate copying at issue. Sega cites an equal number of cases involving intermediate copying of copyrighted computer code to support its assertion that such copying is prohibited. *Atari Games Corp. v. Nintendo of America, Inc.*, 18 U.S.P.Q.2d 1935 (N.D. Cal. 1991); *SAS Institute, Inc. v. S & H*

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*Computer Systems, Inc.*, 605 F.Supp. 816 [ 225 USPQ 916] (M.D. Tenn. 1985); *S & H Computer Systems, Inc. v. SAS Institute, Inc.*, 568 F.Supp. 416 [222 USPQ 715] (M.D. Tenn. 1983); *Hubco Data Products v. Management Assistance, Inc.*, 219 U.S.P.Q. 450 (D. Idaho 1983). Again, however, it appears that the question of the lawfulness of intermediate copying was not raised in any of those cases.

[1] In summary, the question whether intermediate copying of computer object code infringes the exclusive rights granted to the copyright owner in section 106 of the Copyright Act is a question of first impression. In light of the unambiguous language of the Act, we decline to depart from the rule set forth in *Walker* for copyrighted works generally. Accordingly, we hold that intermediate copying of computer object code may infringe the exclusive rights granted to the copyright owner in section 106 of the Copyright Act regardless of whether the end product of the copying also infringes those rights. If intermediate copying is permissible under the Act, authority for such copying must be found in one of the statutory provisions to which the rights granted in section 106 are subject.

### **B. The Idea/Expression Distinction**

Accolade next contends that disassembly of computer object code does not violate the Copyright Act because it is necessary in order to gain access to the ideas and functional concepts embodied in the code, which are not protected by copyright. 17 U.S.C. Section 102(b). Because humans cannot comprehend object code, it reasons, disassembly of a commercially available computer program into human-readable form should not be considered an infringement of the owner's copyright. Insofar as Accolade suggests that disassembly of object code is lawful *per se*, it seeks to overturn settled law.

[2] Accolade's argument regarding access to ideas is, in essence, an argument that object code is not eligible for the full range of copyright protection. Although some scholarly authority supports that view, we have previously rejected it based on the language and legislative history of the Copyright Act. *Johnson Controls, Inc. v. Phoenix Control Sys., Inc.*, 886 F.2d 1173, 1175 [12 USPQ2d 1566] (9th Cir. 1989); *Apple Computer, Inc. v. Formula Int'l Inc.*, 725 F.2d 521, 524-25 [221 USPQ 762] (9th Cir. 1984); see also *Apple Computer, Inc. v. Franklin Computer Corp.*, 714 F.2d 1240, 1246-48 [219 USPQ 113] (3d Cir. 1983), *cert. dismissed*, 464 U.S. 1033 (1984).

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As recommended by the National Commission on New Technological Uses of Copyrighted Works (CONTU), the 1980 amendments to the Copyright Act unambiguously extended copyright protection to computer programs. [PL\96-517] Pub.L. 96-517, sec. 10, [STAT\94\3028] 94 Stat. 3028 (1980) (codified at 17 U.S.C. Sections 101, 117); see National Commission on New Technological Uses of Copyrighted Works, Final Report 1 (1979) [CONTU Report].<sup>5</sup> "[T]he Act makes no distinction between the copyrightability of those programs which directly interact with the computer user and those which simply manage the computer system." *Formula*, 725 F.2d at 525. Nor does the Act require that a work be directly accessible to humans in order to be eligible for copyright protection. Rather, it extends protection to all original works "which . . . can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device." 17 U.S.C. Section 102(a); see *Formula*, 725 F.2d at 525. The statutory language, read together with the CONTU report, leads inexorably to the conclusion that the copyright in a computer program extends to the object code version of the program. *Formula*, 725 F.2d at 525; *Franklin*, 714 F.2d at 1248; CONTU Report at 21.

Nor does a refusal to recognize a *per se* right to disassemble object code lead to an absurd result. The ideas and functional concepts underlying many types of computer programs, including word processing programs, spreadsheets, and video game displays, are readily discernible without the need for disassembly, because the operation of such programs is visible on the computer screen. The need to disassemble object code arises, if at all, only in connection with operations systems, system interface procedures, and other programs that are not visible to the user when operating -- and then only when no alternative means of gaining an understanding of those ideas and functional concepts exists. In our view, consideration of the unique nature of computer object code thus is more appropriate as part of the case-by-case, equitable "fair use" analysis authorized by section 107 of the Act. See *infra* Part III(D). Accordingly, we reject Accolade's second argument.

### C. Section 117

Section 117 of the Copyright Act allows the lawful owner of a copy of a computer program to copy or adapt the program if the new copy or adaptation "is created as an essential step in the utilization of the computer program in conjunction with a machine and . . . is used in no other manner." 17 U.S.C. Section 117(1). Accolade contends that section 117 authorizes disassembly of the object code in a copyrighted computer program.

[3] Section 117 was enacted on the recommendation of CONTU, which noted that "[b]ecause the placement of any copyrighted work into a computer is the preparation of a copy [since the program is loaded into the computer's memory], the law should provide that persons in rightful possession of copies of programs be able to use them freely without fear of exposure to copyright liability." CONTU Report at 13. We think it is clear that Accolade's use went far beyond that contemplated by CONTU and authorized by section 117. Section 117 does not purport to protect a user who disassembles object code, converts it from assembly into source code, and makes printouts and photocopies of the refined source code version.<sup>6</sup>

**D. Fair use**

Accolade contends, finally, that its disassembly of copyrighted object code as a necessary step in its examination of the unprotected ideas and functional concepts embodied in the code is a fair use that is privileged by section 107 of the Act. Because, in the case before us, disassembly is the only means of gaining access to those unprotected aspects of the program, and because Accolade has a legitimate interest in gaining such access (in order to determine how to make its cartridges compatible with the Genesis console), we agree with Accolade. Where there is good reason for studying or examining the unprotected aspects of a copyrighted computer program, disassembly for purposes of such study or examination constitutes a fair use.

**1.**

As a preliminary matter, we reject Sega's contention that the assertion of a fair use defense in connection with the disassembly of object code is precluded by statute. First, Sega argues that not only does section 117 of the Act *not* authorize disassembly of object code, but it also constitutes a legislative determination that any copying of a computer program *other* than that authorized by section 117 cannot be considered a fair use of that program under section 107. That argument verges on the frivolous. Each of the exclusive rights created by section 106 of the Copyright Act is expressly made subject to all of the limitations contained in sections 107 through 120. 17 U.S.C. Section 106. Nothing in the language or the legislative history of section 117, or in the CONTU Report, suggests that section 117 was intended to preclude the assertion of a fair use defense with respect to uses of computer programs that are not covered by section 117, nor has section 107 been amended to exclude computer programs from its ambit.

Moreover, sections 107 and 117 serve entirely different functions. Section 117 defines a narrow category of copying that is lawful *per se*, 17 U.S.C. Section 117. Section 107, by contrast, establishes a *defense* to an otherwise valid claim of copyright infringement. It provides that particular instances of copying that otherwise would be actionable are lawful, and sets forth the factors to be considered in determining whether the defense applies. *Id.* Section 107. The fact that Congress has not chosen to provide a *per se* exemption to section 106 for disassembly does not mean that particular instances of disassembly may not constitute fair use.

Second, Sega maintains that the language and legislative history of section 906 of the Semiconductor Chip Protection Act of 1984 (SCPA) establish that Congress did not intend that disassembly of object code be considered a fair use. Section 906 of the SCPA authorizes the copying of the "mask work" on a silicon chip in the course of reverse engineering the chip. 17 U.S.C. Section 906. The mask work in a standard ROM chip, such as those used in the Genesis console and in Genesis-compatible cartridges, is a physical representation of the computer program that is embedded in the chip. The zeros and ones of binary object code are represented in the circuitry of the mask work by open and closed switches. Sega contends that Congress's express authorization of copying in the particular circumstances set forth in section 906 constitutes a determination that



other forms of copying of computer programs are prohibited.

[4] The legislative history of the SCPA reveals, however, that Congress passed a separate statute to protect semiconductor chip products because it believed that semiconductor chips were intrinsically utilitarian articles that were not protected under the Copyright Act. H.R. Rep. No. 781, 98th Cong., 2d Sess. 8-10, *reprinted in* 1984 U.S.C.C.A.N. 5750, 5757-59. Accordingly, rather than amend the Copyright Act to extend traditional copyright protection to chips, it enacted "a sui generis form of protection, apart from and independent of the copyright laws." *Id.* at 10 1984 U.S.C.C.A.N. at 5759. Because Congress did not believe that semiconductor chips were eligible for copyright protection in the first instance, the fact that it included an exception for reverse engineering of mask work in the SCPA says nothing about its intent with respect to the lawfulness of disassembly of computer programs under the Copyright Act. Nor is the fact that Congress did not contemporaneously amend the Copyright Act to permit disassembly significant, since it was focusing on the protection to be afforded to semiconductor chips. Here we are dealing not with an alleged violation of the SCPA, but with the copying of a computer program, which is governed by the Copyright Act. Moreover, Congress expressly stated that it did not intend to "limit, enlarge or otherwise affect the scope, duration, ownership or subsistence of copyright protection . . . in computer programs, data bases, or any other copyrightable works embodied in semiconductor chip products." *Id.* at 28, 1984 U.S.C.C.A.N. at 5777. Accordingly, Sega's second statutory argument also fails. We proceed to consider Accolade's fair use defense.

## 2.

Section 107 lists the factors to be considered in determining whether a particular use is a fair one. Those factors include:

- (1) the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes;
- (2) the nature of the copyrighted work;
- (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and
- (4) the effect of the use upon the potential market for or value of the copyrighted work.

17 U.S.C. Section 107. The statutory factors are not exclusive. Rather, the doctrine of fair use is in essence "an equitable rule of reason." *Harper & Row, Publishers, Inc. v. Nation Enterprises*, 471 U.S. 539, 560 [225 USPQ 1073] (1985) (quoting H.R. Rep. No. 1476, 94th Cong., 2d Sess. 65, *reprinted in* 1976 U.S.C.C.A.N. 5659, 5679). Fair use is a mixed question of law and fact. *Id.* "Where the district court has found facts sufficient to evaluate each of the statutory factors," an appellate court may resolve the fair use question as a matter of law. *Id.*

In determining that Accolade's disassembly of Sega's object code did not constitute a fair use, the district court treated the first and fourth statutory factors as dispositive, and

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ignored the second factor entirely. Given the nature and characteristics of Accolade's direct use of the copied works, the ultimate use to which Accolade put the functional information it obtained, and the nature of the market for home video entertainment systems, we conclude that neither the first nor the fourth factor weighs in Sega's favor. In fact, we conclude that both factors support Accolade's fair use defense, as does the second factor, a factor which is important to the resolution of cases such as the one before us.

### (a)

With respect to the first statutory factor, we observe initially that the fact that copying is for a commercial purpose weighs against a finding of fair use. *Harper & Row*, 471 U.S. at 562. However, the presumption of unfairness that arises in such cases can be rebutted by the characteristics of a particular commercial use. *Hustler Magazine, Inc. v. Moral Majority, Inc.*, 796 F.2d 1148, 1152 [230 USPQ 646] (9th Cir. 1986); see also *Maxtone-Graham v. Burtchae*, 803 F.2d 1253, 1262 [231 USPQ 534] (2d Cir. 1986), cert. denied, 481 U.S. 1059 (1987). Further "[t]he commercial nature of a use is a matter of degree, not an absolute. . . ." *Maxtone-Graham*, 803 F.2d at 1262.

[5] Sega argues that because Accolade copied its object code in order to produce a competing product, the *Harper & Row* presumption applies and precludes a finding of fair use. That analysis is far too simple and ignores a number of important considerations. We must consider other aspects of "the purpose and character of the use" as well. As we have noted, the use at issue was an intermediate one only and thus any commercial "exploitation" was indirect or derivative.

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The declarations of Accolade's employees indicate, and the district court found, that Accolade copied Sega's software solely in order to discover the functional requirements for compatibility with the Genesis console -- aspects of Sega's programs that are not protected by copyright. 17 U.S.C. Section 102(b). With respect to the video game programs contained in Accolade's game cartridges, there is no evidence in the record that Accolade sought to avoid performing its own creative work. Indeed, most of the games that Accolade released for use with the Genesis console were originally developed for other hardware systems. Moreover, with respect to the interface procedures for the Genesis console, Accolade did not seek to avoid paying a customarily charged fee for use of those procedures, nor did it simply copy Sega's code; rather, it wrote its own procedures based on what it had learned through disassembly. Taken together, these facts indicate that although Accolade's ultimate purpose was the release of Genesis-compatible games for sale, its direct purpose in copying Sega's code, and thus its direct use of the copyrighted material, was simply to study the functional requirements for Genesis compatibility so that it could modify existing games and make them usable with the Genesis console. Moreover, as we discuss below, no other method of studying those requirements was available to Accolade. On these facts, we conclude that Accolade copied Sega's code for a legitimate, essentially non-exploitative purpose, and that the commercial aspect of its use can best be described as of minimal significance.



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We further note that we are free to consider the public benefit resulting from a particular use notwithstanding the fact that the alleged infringer may gain commercially. *See Hustler* , 796 F.2d at 1153 (quoting *MCA, Inc. v. Wilson*, 677 F.2d 180, 182 [211 USPQ 577] (2d Cir. 1981)). Public benefit need not be direct or tangible, but may arise because the challenged use serves a public interest. *Id.* In the case before us, Accolade's identification of the functional requirements for Genesis compatibility has led to an increase in the number of independently designed video game programs offered for use with the Genesis console. It is precisely this growth in creative expression, based on the dissemination of other creative works and the unprotected ideas contained in those works, that the Copyright Act was intended to promote. *See Feist Publications, Inc. v. Rural Tel. Serv. Co.* , \_\_\_ U.S. \_\_\_, 111 S.Ct. 1282, 1290 [ 18 USPQ2d 1275] (1991) (citing *Harper & Row* , 471 U.S. at 556-57). The fact that Genesis-compatible video games are not scholarly works, but works offered for sale on the market, does not alter our judgment in this regard. We conclude that given the purpose and character of Accolade's use of Sega's video game programs, the presumption of unfairness has been overcome and the first statutory factor weighs in favor of Accolade.

### (b)

As applied, the fourth statutory factor, effect on the potential market for the copyrighted work, bears a close relationship to the "purpose and character" inquiry in that it, too, accommodates the distinction between the copying of works in order to make independent creative expression possible and the simple exploitation of another's creative efforts. We must, of course, inquire whether, "if [the challenged use] should become widespread, it would adversely affect the potential market for the copyrighted work," *Sony Corp. v. Universal City Studios*, 464 U.S. 417, 451 [ 220 USPQ 665 ] (1984), by diminishing potential sales, interfering with marketability, or usurping the market, *Hustler* , 796 F.2d at 1155-56. If the copying resulted in the latter effect, all other considerations might be irrelevant. The *Harper & Row* Court found a use that effectively usurped the market for the copyrighted work by supplanting that work to be dispositive. 471 U.S. at 567-69. However, the same consequences do not and could not attach to a use which simply enables the copier to enter the market for works of the same type as the copied work.

Unlike the defendant in *Harper & Row* , which printed excerpts from President Ford's memoirs verbatim with the stated purpose of "scooping" a *Time* magazine review of the book, 471 U.S. at 562, Accolade did not attempt to "scoop" Sega's release of any particular game or games, but sought only to become a legitimate competitor in the field of Genesis-compatible video games. Within that market, it is the characteristics of the game program as experienced by the user that determine the program's commercial success. As we have noted, there is nothing in the record that suggests that Accolade copied any of those elements.

By facilitating the entry of a new competitor, the first lawful one that is not a Sega licensee, Accolade's disassembly of Sega's software undoubtedly "affected" the market for Genesis-compatible games in an indirect fashion. We note, however, that while no consumer except the most avid devotee of President Ford's regime might be expected

to buy more than one version of the President's memoirs, video game users typically purchase more than one game. There is no basis for assuming that Accolade's "Ishido" has significantly affected the market for Sega's "Altered Beast", since a consumer might easily purchase both; nor does it seem unlikely that a consumer particularly interested in sports might purchase both Accolade's "Mike Ditka Power Football" and Sega's "Joe Montana Football", particularly if the games are, as Accolade contends, not substantially similar. In any event, an attempt to monopolize the market by making it impossible for others to compete runs counter to the statutory purpose of promoting creative expression and cannot constitute a strong equitable basis for resisting the invocation of the fair use doctrine. Thus, we conclude that the fourth statutory factor weighs in Accolade's, not Sega's, favor, notwithstanding the minor economic loss Sega may suffer.

(c)

The second statutory factor, the nature of the copyrighted work, reflects the fact that not all copyrighted works are entitled to the same level of protection. The protection established by the Copyright Act for original works of authorship does not extend to the ideas underlying a work or to the functional or factual aspects of the work. 17 U.S.C. Section 102(b). To the extent that a work is functional or factual, it may be copied, *Baker v. Selden*, 101 U.S. 99, 102-04 (1879), as may those expressive elements of the work that "must necessarily be used as incident to" expression of the underlying ideas, functional concepts, or facts, *id.* at 104. Works of fiction receive greater protection than works that have strong factual elements, such as historical or biographical works, *Maxtone-Graham*, 803 F.2d at 1263 (citing *Rosemont Enterprises, Inc. v. Random House, Inc.*, 366 F.2d 303, 307 [150 USPQ 715] (2d Cir. 1966), *cert. denied*, 385 U.S. 1009 [152 USPQ 844] (1967)), or works that have strong functional elements, such as accounting textbooks, *Baker*, 101 U.S. at 104. Works that are merely compilations of fact are copyrightable, but the copyright in such a work is "thin." *Feist Publications*, 111 S.Ct. at 1289.

Computer programs pose unique problems for the application of the "idea/expression distinction" that determines the extent of copyright protection. To the extent that there are many possible ways of accomplishing a given task or fulfilling a particular market demand, the programmer's choice of program structure and design may be highly creative and idiosyncratic. However, computer programs are, in essence, utilitarian articles -- articles that accomplish tasks. As such, they contain many logical, structural, and visual display elements that are dictated by the function to be performed, by considerations of efficiency, or by external factors such as compatibility requirements and industry demands. *Computer Assocs. Int'l, Inc. v. Altai, Inc.*, 23 U.S.P.Q.2d (BNA) 1241, 1253-56 (2d Cir. 1992) ("CAI"). In some circumstances, even the exact set of commands used by the programmer is deemed functional rather than creative for purposes of copyright. "[W]hen specific instructions, even though previously copyrighted, are the only and essential means of accomplishing a given task, their later use by another will not amount to infringement." CONTU Report at 20; see *CAI*, 23 U.S.P.Q.2d at 1254.\*

Because of the hybrid nature of computer programs, there is no settled standard for identifying what is protected expression and what is unprotected idea in a case involving the alleged infringement of a copyright in computer software. We are in wholehearted

agreement with the Second Circuit's recent observation that " [t]hus far, many of the decisions in this area reflect the courts' attempt to fit the proverbial square peg in a round hole." *CAI*, 23 U.S.P.Q.2d at 1257. In 1986, the Third Circuit attempted to resolve the dilemma by suggesting that the idea or function of a computer program is the idea of the program as a whole, and "everything that is not necessary to that purpose or function [is] part of the expression of that idea." *Whelan Assoc., Inc. v. Jaslow Dental Laboratory, Inc.*, 797 F.2d 1222, 1236 [230 USPQ 481 ] (3d Cir. 1986) (emphasis omitted). The *Whelan* rule, however, has been widely -- and soundly -- criticized as simplistic and overbroad. See *CAI*, 23 U.S.P.Q.2d at 1252 (citing cases, treatises, and articles). In reality, "a computer program's ultimate function or purpose is the composite result of interacting subroutines. Since each subroutine is itself a program, and thus, may be said to have its own 'idea,' *Whelan*'s general formulation . . . is descriptively inadequate." *Id.* For example, the computer program at issue in the case before us, a video game program, contains at least two such subroutines -- the subroutine that allows the user to interact with the video game and the subroutine that allows the game cartridge to interact with the console. Under a test that breaks down a computer program into its component subroutines and sub-subroutines and then identifies the idea

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or core functional element of each, such as the test recently adopted by the Second Circuit in *CAI*, 23 U.S.P.Q.2d at 1252-53, many aspects of the program are not protected by copyright. In our view, in light of the essentially utilitarian nature of computer programs, the Second Circuit's approach is an appropriate one.

Sega argues that even if many elements of its video game programs are properly characterized as functional and therefore not protected by copyright, Accolade copied protected expression. Sega is correct. The record makes clear that disassembly is wholesale copying. Because computer programs are also unique among copyrighted works in the form in which they are distributed for public use, however, Sega's observation does not bring us much closer to a resolution of the dispute.

The unprotected aspects of most functional works are readily accessible to the human eye. The systems described in accounting textbooks or the basic structural concepts embodied in architectural plans, to give two examples, can be easily copied without also copying any of the protected, expressive aspects of the original works. Computer programs, however, are typically distributed for public use in object code form, embedded in a silicon chip or on a floppy disk. For that reason, humans often cannot gain access to the unprotected ideas and functional concepts contained in object code without disassembling that code -- i.e., making copies. <sup>8</sup> *Atari Games Corp. v. Nintendo of America*, No. 91-1293, slip op. at 22 [24 USPQ2d 1015 ] (Fed.Cir. Sept. 10, 1992).

Sega argues that the record does not establish that disassembly of its object code is the only available method for gaining access to the interface specifications for the Genesis console, and the district court agreed. An independent examination of the record reveals that Sega misstates its contents, and demonstrates that the district court committed clear error in this respect.

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First, the record clearly establishes that humans cannot *read* object code. Sega makes much of Mike Lorenzen's statement that a reverse engineer can work directly from the zeros and ones of object code but "[i]t's not as fun." In full, Lorenzen's statements establish only that the use of an *electronic* decompiler is not absolutely necessary. Trained programmers can disassemble object code by hand. Because even a trained programmer cannot possibly remember the millions of zeros and ones that make up a program, however, he must make a written or computerized copy of the disassembled code in order to keep track of his work. See generally Johnson-Laird, *Technical Demonstration of "Decompilation"*, reprinted in *Reverse Engineering: Legal and Business Strategies for Competitive Design in the 1990's* 102 (Prentice Hall Law & Business ed. 1992). The relevant fact for purposes of Sega's copyright infringement claim and Accolade's fair use defense is that *translation* of a program from object code into source code cannot be accomplished without making copies of the code.

Second, the record provides no support for a conclusion that a viable alternative to disassembly exists. The district court found that Accolade could have avoided a copyright infringement claim by "peeling" the chips contained in Sega's games or in the Genesis console, as authorized by section 906 of the SCPA, 17 U.S.C. Section 906. Even Sega's amici agree that this finding was clear error. The declaration of Dr. Harry Tredennick, an expert witness for Accolade, establishes that chip peeling yields only a physical diagram of the *object code* embedded in a ROM chip. It does not obviate the need to translate object code into source code. *Atari Games Corp.*, slip op. at 22.

The district court also suggested that Accolade could have avoided a copyright infringement suit by programming in a "clean room". That finding too is clearly erroneous. A "clean room" is a procedure used in the computer industry in order to prevent direct copying of a competitor's code during the development of a competing product. Programmers in clean rooms are provided only with the functional specifications for the desired program. As Dr. Tredennick explained, the use of a clean room would not have avoided the need for disassembly because disassembly was necessary in order to discover the functional specifications for a Genesis-compatible game.

[6] In summary, the record clearly establishes that disassembly of the object code in Sega's video game cartridges was necessary in order to understand the functional requirements for Genesis compatibility. The interface procedures for the Genesis console are distributed for public use only in object code form, and are not visible to the user

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during operation of the video game program. Because object code cannot be read by humans, it must be disassembled, either by hand or by machine. Disassembly of object code necessarily entails copying. Those facts dictate our analysis of the second statutory fair use factor. If disassembly of copyrighted object code is *per se* an unfair use, the owner of the copyright gains a *de facto* monopoly over the functional aspects of his work -- aspects that were expressly denied copyright protection by Congress. 17 U.S.C. Section 102(b). In order to enjoy a lawful monopoly over the idea or functional principle underlying a work, the

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creator of the work must satisfy the more stringent standards imposed by the patent laws. *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 159-64 [9 USPQ2d 1847 ] (1989). Sega does not hold a patent on the Genesis console.

Because Sega's video game programs contain unprotected aspects that cannot be examined without copying, we afford them a lower degree of protection than more traditional literary works. See *CAI*, 23 U.S.P.Q.2d at 1257. In light of all the considerations discussed above, we conclude that the second statutory factor also weighs in favor of Accolade.<sup>9</sup>

### (d)

As to the third statutory factor, Accolade disassembled entire programs written by Sega. Accordingly, the third factor weighs against Accolade. The fact that an entire work was copied does not, however, preclude a finding of fair use. *Sony Corp.*, 464 U.S. at 449-50; *Hustler*, 795 F.2d at 1155 (" *Sony Corp.* teaches us that the copying of an entire work does not preclude fair use *per se*."). In fact, where the ultimate (as opposed to direct) use is as limited as it was here, the factor is of very little weight. Cf. *Wright v. Warner Books, Inc.*, 953 F.2d 731, 738 [20 USPQ2d 1892] (2d Cir. 1991).

### (e)

In summary, careful analysis of the purpose and characteristics of Accolade's use of Sega's video game programs, the nature of the computer programs involved, and the nature of the market for video game cartridges yields the conclusion that the first, second, and fourth statutory fair use factors weigh in favor of Accolade, while only the third weighs in favor of Sega, and even then only slightly. Accordingly, Accolade clearly has by far the better case on the fair use issue.

We are not unaware of the fact that to those used to considering copyright issues in more traditional contexts, our result may seem incongruous at first blush. To oversimplify, the record establishes that Accolade, a commercial competitor of Sega, engaged in wholesale copying of Sega's copyrighted code as a preliminary step in the development of a competing product. However, the key to this case is that we are dealing with computer software, a relatively unexplored area in the world of copyright law. We must avoid the temptation of trying to force "the proverbial square peg in [to] a round hole." *CAI*, 23 U.S.P.Q.2d at 1257.

In determining whether a challenged use of copyrighted material is fair, a court must keep in mind the public policy underlying the Copyright Act. " 'The immediate effect of our copyright law is to secure a fair return for an "author's" creative labor. But the ultimate aim is, by this incentive, to stimulate artistic creativity for the general public good.' " *Sony Corp.*, 464 U.S. at 432 (quoting *Twentieth Century Music Corp. v. Aiken*, 422 U.S. 151, 156 [ 186 USPQ 65 ] (1975)). When technological change has rendered an aspect or application of the Copyright Act ambiguous, " 'the Copyright Act must be construed in light of this basic purpose.' " *Id.* As discussed above, the fact that computer programs are distributed for public use in object code form often precludes public access to the ideas and functional concepts contained in those programs, and thus confers on the copyright owner a *de facto* monopoly over those ideas and functional concepts. That result defeats the fundamental purpose of the Copyright Act -- to encourage the production of original works by protecting

the expressive elements of those works while leaving the ideas, facts,

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and functional concepts in the public domain for others to build on. *Feist Publications*, 111 S.Ct. at 1290; *see also Atari Games Corp.*, slip op. at 18-20.

Sega argues that the considerable time, effort, and money that went into development of the Genesis and Genesis-compatible video games militate against a finding of fair use. Borrowing from antitrust principles, Sega attempts to label Accolade a "free rider" on its product development efforts. In *Feist Publications*, however, the Court unequivocally rejected the "sweat of the brow" rationale for copyright protection. 111 S.Ct. at 1290-95. Under the Copyright Act, if a work is largely functional, it receives only weak protection. "This result is neither unfair nor unfortunate. It is the means by which copyright advances the progress of science and art." *Id.* at 1290; *see also id.* at 1292 ("In truth, '[i]t is just such wasted effort that the proscription against the copyright of ideas and facts . . . [is] designed to prevent.' ") (quoting *Resemont Enterprises, Inc. v. Random House, Inc.*, 366 F.2d 303, 310 [150 USPQ 715] (2d Cir. 1966), *cert. denied*, 305 U.S. 1009 [152 USPQ 844] (1967)); *CAI*, 23 U.S.P.Q.2d at 1257. Here, while the work may not be largely functional, it incorporates functional elements which do not merit protection. The equitable considerations involved weigh on the side of public access. Accordingly, we reject Sega's argument.

(f)

[7] We conclude that where disassembly is the only way to gain access to the ideas and functional elements embodied in a copyrighted computer program and where there is a legitimate reason for seeking such access, disassembly is a fair use of the copyrighted work, as a matter of law. Our conclusion does not, of course, insulate Accolade from a claim of copyright infringement with respect to its finished products. Sega has reserved the right to raise such a claim, and it may do so *on remand*.

#### IV. Trademark Issues

Ordinarily in a trademark case, a trademark holder contends that another party is misusing the holder's mark or is attempting to pass off goods or services as those of the trademark holder. The other party usually protests that the mark is not being misused, that there is no actual confusion, or that for some other reason no violation has occurred. This case is different. Here, both parties agree that there is a misuse of a trademark, both agree that there is unlawful mislabeling, and both agree that confusion may result. The issue, here, is -- which party is primarily responsible? Which is the wrongdoer -- the violator? Is it Sega, which has adopted a security system governing access to its Genesis III console that displays its trademark and message whenever the initialization code for the security system is utilized, even when the video game program was manufactured by a Sega competitor? Or is it Accolade, which, having discovered how to gain access to the Genesis III through the initialization code, uses that code even though doing so triggers the display of Sega's trademark and message in a manner that leads observers to believe that Sega



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manufactured the Accolade game cartridge? In other words, is Sega the injured party because its mark is wrongfully attached to an Accolade video game by Accolade? Or is Accolade wronged because its game is mislabeled as a Sega product by Sega? The facts are relatively straightforward and we have little difficulty answering the question.

Sega's trademark security system (TMSS) initialization code not only enables video game programs to operate on the Genesis III console, but also prompts a screen display of the SEGA trademark and message. As a result, Accolade's inclusion of the TMSS initialization code in its video game programs has an effect ultimately beneficial neither to Sega nor to Accolade. A Genesis III owner who purchases a video game made by Accolade sees Sega's trademark associated with Accolade's product each time he inserts the game cartridge into the console. Sega claims that Accolade's inclusion of the TMSS initialization code in its games constitutes trademark infringement and false designation of origin in violation of sections 32(1)(a) and 43(a) of the Lanham Trademark Act, 15 U.S.C. Sections 1114(1)(a), 1125(a), respectively. Accolade counterclaims that Sega's use of the TMSS to prompt a screen display of its trademark constitutes false designation of origin under Lanham Act section 43(a), 15 U.S.C. Section 1125(a).

Because the TMSS has the effect of regulating access to the Genesis III console, and because there is no indication in the record of any public or industry awareness of any feasible alternate method of gaining access to the Genesis III, we hold that Sega is primarily responsible for any resultant confusion. Thus, it has not demonstrated a likelihood of success on the merits of its Lanham Act claims. Accordingly, the preliminary injunction it obtained must be dissolved with

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respect to the trademark claim also. However, we decline to instruct the district court to grant Accolade's request for preliminary injunctive relief at this time. The decision whether to grant such relief requires the making of factual and equitable determinations in light of the legal conclusions we express here. Such determinations are best left in the first instance to the district court.

### **A. False Labeling**

Section 32(1)(a) of the Lanham Act creates a cause of action for trademark infringement against any person who, without the consent of the trademark owner, "use [s] in commerce any reproduction . . . of a registered mark in connection with the sale, offering for sale, distribution, or advertising of any goods or services on or in connection with which such use is likely to cause confusion, or to cause mistake, or to deceive. . . ." 15 U.S.C. Section 1114(1)(a). Section 43(a) proscribes the use in commerce of a false designation of origin in connection with goods or services where such use is "likely to cause confusion, or . . . mistake." *Id.* Section 1125(a). Both Sega and Accolade agree that the screen display of the Sega trademark and message creates a likelihood of consumer confusion regarding the origin of Accolade's games. The question is: which party is legally responsible for that confusion? We disagree with the answer given by the district court.

The district court found that Accolade bore primary responsibility for any consumer confusion that resulted from the display of the false Sega Message. However, Accolade had

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no desire to cause the Sega Message to appear or otherwise to create any appearance of association between itself and Sega; in fact, it had precisely the opposite wish. It used the TMSS initialization code only because it wanted to gain access for its products to the Genesis III, and was aware of no other method for doing so. On the other hand, while it may not have been Sega's ultimate goal to mislabel *Accolade's* products, the record is clear that the false labeling was the result of a deliberate decision on the part of Sega to include in the Genesis III a device which would both limit general access and cause false labeling. The decision to use the SEGA trademark as an essential element of a functional device that regulates access and to cause the SEGA trademark and message to be displayed whenever that functional device was triggered compels us to place primary responsibility for consumer confusion squarely on Sega.

[8] With respect to *Accolade*, we emphasize that the record clearly establishes that it had only one objective in this matter: to make its video game programs compatible with the Genesis III console. That objective was a legitimate and a lawful one. There is no evidence whatsoever that *Accolade* wished Sega's trademark to be displayed when *Accolade's* games were played on Sega's consoles. To the contrary, *Accolade* included disclaimers on its packaging materials which stated that "Accolade, Inc. is not associated with Sega Enterprises, Ltd." When questioned regarding the Sega Message and its potential effect on consumers, Alan Miller testified that *Accolade* does not welcome the association between its product and Sega and would gladly avoid that association if there were a way to do so. Miller testified that *Accolade's* engineers had not been able to discover any way to modify their game cartridges so that the games would operate on the Genesis III without prompting the screen display of the Sega Message.

In contrast, Sega officials testified that Sega incorporated the TMSS into the Genesis console, known in Asia as the Mega-Drive, in order to lay the groundwork for the trademark prosecution of software pirates who sell counterfeit cartridges in Taiwan and South Korea, as well as in the United States. Sega then marketed the redesigned console worldwide. Sega intended that when Sega game programs manufactured by a counterfeiter were played on its consoles, the Sega Message would be displayed, thereby establishing the legal basis for a claim of trademark infringement. However, as Sega certainly knew, the TMSS also had the potential to affect legitimate competitors adversely. First, Sega should have foreseen that a competitor might discover how to utilize the TMSS, and that when it did and included the initialization code in its cartridges, its video game programs would also end up being falsely labeled. Sega should also have known that the TMSS might discourage some competitors from manufacturing independently developed games for use with the Genesis III console, because they would not want to become the victims of such a labeling practice. Thus, in addition to laying the groundwork for lawsuits against pirates, Sega knowingly risked two significant consequences: the false labeling of some competitors' products and the discouraging of other competitors from manufacturing Genesis-compatible games. Under the Lanham Act, the former conduct, at least, is clearly unlawful.

" [T]rademark policies are designed '(1) to protect consumers from being misled . . . (2) to prevent an impairment of the value of the enterprise which owns the trademark; and



(3) to achieve these ends in a manner consistent with the objectives of free competition.’  
“ *Anti-Monopoly, Inc. v. General Mills Fun Group*, 611 F.2d 296, 300-01 [204 USPQ 978 ] (9th Cir. 1979) (quoting *HMH Publishing Co. v. Brincat*, 504 F.2d 713, 716 [ 183 USPQ 141 ] (9th Cir. 1974)). Sega violated the first and the third of these principles “The trademark is misused if it serves to limit competition in the manufacture and sales of a product. That is the special province of the limited monopolies provided pursuant to the patent laws.” *Id.* at 301 (citation omitted).

Sega makes much of the fact that it did not adopt the TMSS in order to wage war on Accolade in particular, but rather as a defensive measure against software counterfeiters. It is regrettable that Sega is troubled by software pirates who manufacture counterfeit products in other areas of the world where adequate copyright remedies are not available. However, under the Lanham Act, which governs the use of trademarks and other designations of origin in this country, it is the *effect* of the message display that matters. Whatever Sega's intent with respect to the TMSS, the device serves to limit competition in the market for Genesis-compatible games and to mislabel the products of competitors. Moreover, by seeking injunctive relief based on the mislabeling it has itself induced, Sega seeks once again to take advantage of its trademark to exclude its competitors from the market. The use of a mark for such purpose is inconsistent with the Lanham Act.

### **B. Functionality**

Sega argues that even if the legal analysis we have enunciated is correct, the facts do not support its application to this case. Specifically, Sega contends that the TMSS does not prevent legitimate unlicensed competitors from developing and marketing Genesis III-compatible cartridges that do not trigger a display of the Sega trademark and message. In other words, Sega claims that Accolade could have “engineered around” the TMSS. Accolade strongly disagrees with Sega's factual assertions. It contends that the TMSS initialization sequence is a functional feature that must be included in a video game program by a manufacturer in order for the game to operate on the Genesis III. Sega's factual argument stands or falls on the Nagashima declaration and the accompanying *modified* game cartridges that Sega introduced at the hearing. Having carefully reviewed the declaration, we conclude that Sega has not met its burden of establishing nonfunctionality.

Based on the Nagashima declaration and on the *modified* cartridges, the district court concluded that the TMSS initialization sequence was not a necessary component of a Genesis-compatible game. <sup>10</sup>The court found that Accolade could have created a game cartridge that lacked the TMSS initialization code but would still operate on the Genesis III, or could have programmed its games in such a way that the false Sega Message would not be displayed on the screen. The court further found that either modification could have been accomplished at minimal additional expense to Accolade. Accordingly, the court ruled that Accolade could not assert a functionality defense.

The question whether a product feature is functional is a question of fact. *Inwood Laboratories, Inc. v. Ives Laboratories, Inc.*, 456 U.S. 844, 855 [214 USPQ 1 ] (1982). Determination of the correct legal standard to apply in evaluating functionality, however, is a question of law which we review *de novo*. *Id.* at 855 n.15. The burden of proving

nonfunctionality is on *Sega*. See *Rachel v. Banana Republic, Inc.*, 831 F.2d 1503, 1506 [ 4 USPQ2d 1877 ] (9th Cir. 1987). In the case before us, we conclude that the district court's finding of nonfunctionality was based on its use of an incorrect legal standard. Viewed in the correct light, the record before us supports only one conclusion: The TMSS initialization code is a functional feature of a

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Genesis-compatible game and Accolade may not be barred from using it.

"Functional features of a product are features 'which constitute the actual benefit that the consumer wishes to purchase, as distinguished from an assurance that a particular entity made, sponsored, or endorsed a product.' " *Vuitton et Fils S.A. v. J. Young Enterprises, Inc.*, 644 F.2d 769, 774 [212 USPQ 85 ] (9th Cir. 1981) (quoting *International Order of Job's Daughters v. Lindeburg & Co.*, 633 F.2d 912, 917 [208 USPQ 718] (9th Cir. 1980), cert. denied, 452 U.S. 941 [213 USPQ 1056 ] (1981)). A product feature thus is functional "if it is essential to the use or purpose of the article or if it affects the cost or quality of the article." *Inwood Laboratories*, 456 U.S. at 850 n.10. The Lanham Act does not protect essentially functional or utilitarian product features because such protection would constitute a grant of a perpetual monopoly over features that could not be patented. *Keene Corp. v. Paraflex Industries, Inc.*, 653 F.2d 822, 824 [ 211 USPQ 201 ] (3d Cir. 1981). Even when the allegedly functional product feature is a trademark, the trademark owner may not enjoy a monopoly over the functional use of the mark. *Job's Daughters*, 633 F.2d at 918-19.

In determining whether a product feature is functional, a court may consider a number of factors, including -- but not limited to -- "the availability of alternative designs; and whether a particular design results from a comparatively simple or cheap method of manufacture." *Clamp Mfg. Co. v. Enco Mfg. Co., Inc.*, 870 F.2d 512, 516 [ 10 USPQ2d 1226] (9th Cir.), cert. denied, 493 U.S. 872 (1989). The availability of alternative methods of manufacture must be more than merely theoretical or speculative, however. The court must find "that commercially feasible alternative configurations exist." *Id.* (emphasis added). Moreover, some cases have even suggested that in order to establish nonfunctionality the party with the burden must demonstrate that the product feature " 'serves no purpose other than identification.' " *Keene Corp.*, 653 F.2d at 826 (quoting *SK & F Co. v. Premo Pharmaceutical Laboratories, Inc.*, 625 F.2d 1055, 1063 [206 USPQ 964 ] (3d Cir. 1980)). With these principles in mind, we turn to the question whether the TMSS initialization code is a functional feature of a Genesis-compatible game.

It is indisputable that, in the case before us, part of "the actual benefit that the consumer wishes to purchase" is compatibility with the Genesis III console. The TMSS initialization code provides that compatibility. *Sega* argues that the *modified* cartridges that were introduced in the district court establish the actual existence of technically and commercially feasible alternative methods of gaining access to the Genesis III. The cartridges were prepared by Nagashima, an employee in *Sega's* Hardware Research and Development Department who was "familiar with the TMSS system". At most, the Nagashima affidavit establishes that an individual familiar with the operation of the TMSS can discover a way to engineer around it. It does not establish that a competitor with no knowledge of the

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workings of the TMSS could do so. Nor is there any evidence that there was any public or industry awareness of any alternate method for gaining access to the Genesis III. Evidence that an individual, even an independent expert, produced one or more cartridges is not sufficient proof that an alternate method exists. What is needed for proof of that fact is proof of the method itself. Here, such proof is totally lacking. What is also needed is proof that knowledge of the alternate method exists or is readily available to knowledgeable persons in the industry. That proof also is totally lacking here. Accordingly, the district court erred as a matter of law in concluding that the Nagashima declaration and the *modified* cartridges were sufficient to establish nonfunctionality.

[9] Because the TMSS serves the function of regulating access to the Genesis III, and because a means of access to the Genesis III console without using the TMSS initialization code is not known to manufacturers of competing video game cartridges, there is an insufficient basis for a finding of nonfunctionality. Moreover, we note that the only evidence in the record (other than the Nagashima declaration) relating to Accolade's ability to gain access to the Genesis III through the use of any process other than the TMSS is the affidavit of Alan Miller. Miller stated that Accolade's software engineers -- who, absent any evidence to the contrary, we presume to be reasonably competent representatives of their profession -- have not been able to discover such a method. This evidence supports our conclusion that Sega has not met its burden of establishing nonfunctionality.

Sega argues that it is not required to share with Accolade or with any other competitor the secrets of how the TMSS works, and how to engineer around it. Sega is correct -- the law does not require that it disclose its trade secrets to Accolade in connection with its effort to prevail on its Lanham Act claim, nor in connection with its effort to defend itself against Accolade's counterclaim. Nevertheless,

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a Lanham Act plaintiff is not entitled to prevail in litigation solely on the basis of unsupported assertions. Rather, it has a choice. It can take its chances and proceed to trial without the sensitive evidence. Alternatively, if it believes the evidence important to the resolution of the dispute, it may seek a protective order from the court pursuant to Federal Rule of Civil Procedure 26(c)(7) governing discovery. "The protective order is not a substitute for [evidence relevant to the merits]. Its purpose . . . is to prevent harm by limiting disclosure of relevant and necessary information." *Micro Motion, Inc. v. Kane Steel Co., Inc.*, 894 F.2d 1318, 1325 [ 13 USPQ2d 1696 ] (Fed.Cir. 1990) (emphasis omitted). Upon a showing that a protective order is warranted, *see American Standard, Inc. v. Pfizer Inc.*, 828 F.2d 734, 739-44 [ 3 USPQ2d 1817 ] (Fed.Cir. 1987), the court may restrict access to the disputed material to the opposing party's counsel, or may allow the parties to retain independent experts to evaluate material that is subject to the protective order. *See, e.g., Safe Flight Instrument Corp. v. Sundstrand Data Control, Inc.*, 682 F.Supp. 20, 22 [ 7 USPQ2d 1823 ] (D. Del. 1988) (listing cases). The latter solution is particularly helpful to the court in a case such as this one, in which the dispute is highly technical in nature. However, neither the district court nor Sega took advantage of this procedure. Thus there is no independent evidence to support the conclusion offered by Nagashima.

In summary, because Sega did not produce sufficient evidence regarding the existence of a feasible alternative to the use of the TMSS initialization code, it did not carry its burden and its claim of nonfunctionality fails. Possibly, Sega will be able to meet its burden of proof at trial. We cannot say. However, we conclude that in light of the record before the district court, Sega was not entitled to preliminary injunctive relief under the Lanham Act.<sup>11</sup>

***C. Accolade's Request for Preliminary Injunctive Relief***

Finally, we decline to order the district court to grant Accolade preliminary injunctive relief on its Lanham Act claim. If requested, the district court may reconsider that issue in light of the legal principles we have set forth. The parties have presented arguments regarding the hardships they would suffer under various circumstances. We believe those arguments should be weighed by the district court before any affirmative relief is ordered. Moreover, the parties may have additional factual material they wish to present regarding the question of Accolade's right to preliminary injunctive relief. Pending further consideration of this matter by the district court, we are content to let the matter rest where it stands, with each party as free to act as it was before the issuance of preliminary injunctive relief. We are confident that preserving the status quo in this manner will not lead to any serious inequity. Costs on appeal shall be assessed against Sega.

AFFIRMED IN PART; REVERSED IN PART; AND REMANDED.

**Footnotes**

<sup>1</sup> The recent decision by the Federal Circuit in *Atari Games Corp. v. Nintendo of America, Inc.*, No. 91-1293 [ 24 USPQ2d 1015 ] (Fed.Cir. Sept. 10, 1992), which discusses a number of the issues we decide here, is consistent both with our analysis and the result we reach.

<sup>2</sup> Computer programs are written in specialized alphanumeric languages, or "source code". In order to operate a computer, source code must be translated into computer readable form, or "object code". Object code uses only two symbols, 0 and 1, in combinations which represent the alphanumeric characters of the source code. A program written in source code is translated into object code using a computer program called an "assembler" or "compiler", and then imprinted onto a silicon chip for commercial distribution. Devices called "disassemblers" or "decompilers" can reverse this process by "reading" the electronic signals for "0" and "1" that are produced while the program is being run, storing the resulting object code in computer memory, and translating the object code into source code. Both assembly and disassembly devices are commercially available, and both types of devices are widely used within the software industry.

<sup>3</sup> The complaint also included state law claims for common law trademark infringement, dilution, unfair competition, and false or misleading statements. None of the state law claims are at issue in this appeal.

<sup>4</sup> Accolade also asserted state law counterclaims for unfair competition, false or misleading statements, and intentional interference with prospective economic advantage. Again, the

state law counterclaims are not at issue here.

5 Congress adopted all of the statutory changes recommended by CONTU verbatim. Subsequent Congresses, the courts, and commentators have regarded the CONTU Report as the authoritative guide to congressional intent.

6 We need not decide whether section 117 protects only the use intended by the copyright owner, as Sega argues. See *Vault Corp. v. Quaid Software Ltd.*, 847 F.2d 255, 261 [7 USPQ2d 1281] (5th Cir. 1988) (authorization of section 117(1) not limited to use intended by copyright owner).

\* We therefore reject Sega's belated suggestion that Accolade's incorporation of the code which "unlocks" the Genesis III console is not a fair use. Our decision on this point is entirely consistent with *Atari v. Nintendo*, 975 F.2d 832 (Fed.Cir. 1992). Although *Nintendo* extended copyright protection to Nintendo's 10NES security system, that system consisted of an *original program* which generates an arbitrary data stream "key" which unlocks the NES console. Creativity and originality went into the design of that program. See *id.* at 840. Moreover, the federal circuit concluded that there is a "multitude of different ways to generate a data stream which unlocks the NES console." *Atari*, 975 F.2d at 839. The circumstances are clearly different here. Sega's key appears to be functional. It consists merely of 20 bytes of initialization code plus the letters S-E-G-A. There is no showing that there is a multitude of different ways to unlock the Genesis III console. Finally, we note that Sega's security code is of such de minimis length that it is probably unprotected under the words and short phrases doctrine. [37 CFR 202.1(a)] 37 C.F.R. Section 202.1(a).

8 We do not intend to suggest that disassembly is always the only available means of access to those aspects of a computer program that are unprotected by copyright. As we noted in Part III(B), *supra*, in many cases the operation of a program is directly reflected on the screen display and therefore visible to the human eye. In those cases, it is likely that a reverse engineer would not need to examine the code in order to understand what the program does.

9 Sega argues that its programs are unpublished works and that therefore, under *Harper & Row*, the second statutory factor weighs in its favor. 471 U.S. at 553-55. Recently, however, this court *affirmed* a district court holding that computer game cartridges that are held out to the public for sale are published works for purposes of copyright. *Lewis Galoob Toys, Inc. v. Nintendo of America, Inc.*, No. 91-16205, slip op. 9345, 9356 [22 USPQ2d 1857] (9th Cir. May 21, 1992, as amended August 5, 1992) (affirming 780 F.Supp. 1283, 1293 [20 USPQ2d 1662] (N.D. Cal. 1991)). The decision in *Association of Am. Medical Colleges v. Cuomo*, 928 F.2d 519 [18 USPQ2d 1106] (2d Cir. 1991), *cert. denied*, 112 S.Ct. 184 (1991), is not to the contrary. The Medical College Admission Test is not held out to the public for sale, but rather is distributed on a highly restricted basis.

10 Accolade challenges the admissibility of the Nagashima declaration and the *modified* cartridges on several grounds. First, it argues that the district court promised to hold an in camera hearing on the declaration, but never did so. However, the record reveals that the district judge ultimately promised to hold such a hearing only if she felt it was necessary. Second, Accolade contends that because Nagashima never specified the nature of the modification that he had made to Accolade's cartridges, the district court erred in admitting the cartridges as evidence without ascertaining that TMSS initialization sequence really had

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been omitted. In a preliminary injunction proceeding, the district court is accorded broad discretion in ruling on the admissibility of evidence. *Flynt Distributing Co., Inc. v. Harvey*, 734 F.2d 1389, 1394 (9th Cir. 1984). In the absence of any evidence that Nagashima was lying, it was not an abuse of discretion for the district judge to admit his declaration and the altered Accolade cartridges as evidence. The fact that neither Accolade nor the district court was able to verify Nagashima's statements affects the weight to be given the statements and the proffered cartridges, not their admissibility.

11 *Sega* contends that even if the TMSS code is functional, Accolade, as the copier, was obligated to take the most effective measures reasonably available to eliminate the consumer confusion that has arisen as a result of the association of *Sega's* trademark with Accolade's product. The district court relied on *Plasticolor Molded Products v. Ford Motor Co.*, 713 F.Supp. 1329, 1339 [11 USPQ2d 1023] (C.D. Cal. 1989), a decision it acknowledged had been vacated. See *Plasticolor Molded Products v. Ford Motor Co.*, 767 F.Supp. 1036 (C.D. Cal. 1991). When a product feature is both functional and source-identifying, the copier need only take reasonable measures to avoid consumer confusion. *American Greetings Corp. v. Dan-Dee Imports, Inc.*, 807 F.2d 1136, 1141 [1 USPQ2d 1001] (3d Cir. 1986); *Job's Daughters*, 633 F.2d at 919 (the degree of protection afforded a product feature that has both functional and source-identifying aspects depends on the characteristics of the use and on the copier's merchandising practices). Assuming *arguendo* that the rules applicable to copiers apply here, the measures adopted by Accolade satisfy a reasonableness standard. Accolade placed disclaimers on its packaging materials which stated that "Accolade, Inc. is not associated with *Sega Enterprises, Ltd.*" While Accolade could have worded its disclaimer more strongly, the version that it chose would appear to be sufficient.

- End of Case -  
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Incredible Technologies Inc. v. Virtual Technologies Inc., 74 USPQ2D 1031 (7th Cir. 2005)

**Incredible Technologies Inc. v. Virtual Technologies Inc.**

**U.S. Court of Appeals Seventh Circuit  
400 F3d 1007  
74 USPQ2D 1031  
No. 03-3785**

**Decided March 15, 2005**

**Headnotes**

**COPYRIGHTS**

**[1] Elements of copyright — Statutory elements — Originality (§205.0707)**

Federal district court did not err in holding that instructions on control panel of video golf game, and layout of controls themselves, are not sufficiently original or creative to merit copyright protection, and that to extent they might be copyrightable, would merit protection only against virtually identical copying, since use of arrows to indicate direction in which to roll trackball in order to obtain certain results is not imaginative or creative, and since layout of controls appears to have been dictated by considerations of function and convenience to large degree, and cannot be considered expressive.

**[2] Non-copyrightable matter — Ideas and systems (§211.05)**

**Rights in copyright; infringement — Right to reproduction — Access, copying, and substantial similarity — Works not similar (§213.0503.05)**

Federal district court did not err in holding that scènes à faire doctrine precludes copyright protection for video imagery used with plaintiff's video golf game, since presentation of realistic game requires courses, clubs, golfer, wind meter, sand traps, water hazards, and other elements common to game of golf, and since menu screens, and prompts showing distance to hole, are standard to video arcade game format; in view of fact that use of certain elements are necessary to make game realistic, differences in presentation between plaintiff's and defendant's games are sufficient to make plaintiff's success on merits unlikely, since defendant's game depicts actual golf courses and real professional golfers, whereas plaintiff's game uses imaginary courses and generic golfers, since defendant's game displays golf bag as player chooses club, offers "grid" as guide to putting, and displays helicopter flying overhead, and since "announcers" for respective games use



different phrases.

## **TRADEMARKS AND UNFAIR TRADE PRACTICES**

### **[3] Types of marks — Trade dress as mark — Labeling and appearance of goods (§327.0704)**

#### **Types of marks — Trade dress as mark — Functionality (§327.0706)**

#### **Infringement; conflicts between marks — Likelihood of confusion — Particular marks — Confusion not likely (§335.0304.05)**

Plaintiff is not likely to succeed on merits of claim for infringement of trade dress for its coin-operated video golf game, since parties' game cabinets, although somewhat similar in shape, are different colors, and have different text and logos on their sides, since control panel and trackball system used to operate games is functional, and since fact that bar and tavern patrons are not likely to exercise high degree of care in differentiating parties' games does not warrant finding that confusion is likely.

#### **Case History and Disposition**

Appeal from the U.S. District Court for the Northern District of Illinois, Kennelly, J.; 68 USPQ2d 1877.

Action by Incredible Technologies Inc. against Virtual Technologies Inc., d/b/a Global VR, for copyright infringement and trade dress infringement. Plaintiff appeals from denial of its motion for preliminary injunction. Affirmed.

#### **Attorneys:**

Robert J. Schneider, of Chapman & Cutler, Chicago, Ill.; Bruce P. Golden, of Golden & Associates, Chicago, for plaintiff-appellant.

Mark D. Flanagan, of Wilson, Sonsini, Goodrich & Rosati, Palo Alto, Calif.; Thomas K. Cauley Jr., of Sidley Austin Brown & Wood, Chicago, for defendant-appellee.

#### **Judge:**

Before Bauer, Ripple, and Evans, circuit judges.

## **Opinion Text**

#### **Opinion By:**

Evans, J.

As anyone who plays it knows, golf can be a very addicting game. And when real golfers want to tee-it-up, they head for their favorite



course, which might be a gem like Brown Deer in Milwaukee, a public course that nevertheless plays host to an annual PGA Tour event every July. What most golfers do not do when they want to play 18 is head for a tavern. Also, most people are quite familiar with Tiger Woods. But who knows Jeff Harlow of Florissant, Missouri? This case is about "golfers" who prefer taverns to fairways and aspire to be more like Harlow than Tiger. Our case concerns video golf.

Golden Tee,<sup>1</sup> made by Incredible Technologies, Inc. (IT), is an incredibly successful video golf game, one of the most successful coin-operated games of all time, beating all kinds of classic games like PAC-MAN and Space Invaders. Forty thousand Golden Tee games (in a dedicated cabinet) were sold between 1995 and August 2003. The game can be found in taverns all over America and in other countries as well. IT spends millions on advertising, and the game generates huge profits in return.

Golden Tee is played by thousands, and the Harlow chap we mentioned, according to a November article in the *St. Louis Post-Dispatch*, just won the 3rd Annual Golden Tee World Championship in Orlando, Florida. Harlow pocketed \$15,000 for the effort (not enough though, the paper reports, for him to give up his day job as a baker at a bagel factory). With money galore tied into the Golden Tee game, the people at IT, understandably, were not happy when PGA Tour® Golf, made by Virtual Technologies, Inc. (d/b/a Global VR), appeared on the tavern scene with a competing game. That's why we have before us IT's appeal from the denial of a preliminary injunction in its copyright/trade dress case against Global VR.

IT has been manufacturing the Golden Tee game since 1989 and has several copyrights on various versions of the game. Involved in this appeal are copyrights on the video game imagery presented on the video display screen and the instructional guide presented on the control panel. In addition, there is a claim that the PGA game's control panel infringes the Golden Tee's trade dress.

Golden Tee employs a software program which projects images and sounds through a video screen and speakers in a kiosk-like display cabinet. The images are of players and golf courses. In front of the screen is a control panel with a "trackball" in the center, which operates the game. The "trackball" is a plastic white ball embedded on the game board. Approximately 1/4 of the ball is visible to the player. The rest of the ball is underneath the game board.

To play the game the trackball is rolled back for the golfer-player's back swing and pushed forward to complete the swing. As in real golf, the virtual golfer must choose the club to be used and, for an accurate shot, consider things like wind and hazards (indicated on the display screen) on the course.

Aware of Golden Tee's popularity, Global VR determined to create a game that was similar enough to Golden Tee so that players of that game could switch to its new game with little difficulty. It obtained a Golden Tee game and delivered it to NuvoStudios (Nuvo), the firm hired to develop the new game. NuvoStudios was instructed to design a game that dropped into a Golden Tee box to work with its controls, which should correspond as closely as

possible to Golden Tee, so that a Golden Tee player could play the new game with no appreciable learning curve.

Nuvo worked from the existing software of a computer golf game—Tiger Woods Golf—and made modifications to convert from a game, played on personal computers and operated with a mouse, to an arcade game, operated as is Golden Tee, with a trackball and buttons. Nuvo essentially copied, with some stylistic changes, the layout of buttons and instructions found on the Golden Tee control panel. Global VR terminated Nuvo's services before the work on the new game was completed, but it hired key Nuvo personnel to finish the job. The goal of making it easy for Golden Tee players to play the new game remained.

The completed new game, PGA Tour Golf, is very similar to the Golden Tee game. The size and shape of PGA Tour Golf's control panel, and the placement of its trackball and buttons, are nearly identical to those of Golden Tee. The "shot shaping" choices are depicted in a similar way and in the same sequence. Although the software on the two games is dissimilar, both allow a player to simulate a straight shot, a fade, a slice, a draw, a hook, etc. by the direction in which the trackball is rolled back and pushed forward.

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Although other games, such as Birdie King and Sega's Virtua Golf have used trackballs, Golden Tee claims to be the first to use both a backward and forward movement.

There are also significant differences between the two games. Golden Tee is played on make-believe courses and the player is given a generic title, like "Golfer 1." The PGA game, on the other hand, uses depictions of real courses, such as Pebble Beach and TPC at Sawgrass, and it permits a player to adopt the identity of certain professional golfers—Colin Montgomerie and Vijay Singh, to name a few. The cabinets are somewhat different, within the realm of what is possible in arcade game cabinets, and the games use different color schemes.

IT filed this lawsuit in February 2003. Its request for a temporary restraining order was denied, and after expedited discovery, a 6-day hearing was held on its request for a preliminary injunction. In denying the injunction, the district court found that Global VR had access to and copied IT's original instruction guide and the video display expressions from Golden Tee. But the court said that IT had not shown a likelihood of success on the merits of this lawsuit, in part because (1) IT's expressions on its control panel are not dictated by creativity, but rather are simple explanations of the trackball system; at best, they are entitled to protection only from virtually identical copying; (2) the video displays contain many common aspects of the game of golf; and (3) IT's trade dress is functional because something similar is essential to the use and play of the video game.

To obtain a preliminary injunction, a plaintiff must demonstrate a likelihood that it will prevail on the merits of the lawsuit, that there is no adequate remedy at law, and that it will suffer irreparable harm without injunctive relief. If these requirements are met, the court must then balance the degree of irreparable harm to the plaintiff against the harm that the defendant will suffer if the injunction is granted. *Publications Int'l, Ltd. v. Meredith Corp.*, 88 F.3d 473 [39 USPQ2d 1444] (7th Cir. 1996). On appeal, the decision granting or denying a preliminary injunction is reviewed for an abuse of discretion. A court has abused its

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discretion when it “commits a clear error of fact or an error of law.” *Abbott Labs. v. Mead Johnson & Co.*, 971 F.2d 6, 13 [23 USPQ2d 1663] (7th Cir. 1992). The district court’s weighing of the factors is entitled to great deference. We do not substitute our judgment for that of the district court.

To establish copyright infringement, a plaintiff must prove “(1) ownership of a valid copyright, and (2) copying of constituent elements of the work that are original.” *Feist Publ’ns, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 361 [18 USPQ2d 1275] (1991). Copying may be inferred where the “defendant had access to the copyrighted work and the accused work is substantially similar to the copyrighted work.” *Atari, Inc. v. North American Philips Consumer Elecs. Corp.*, 672 F.2d 607, 614 [214 USPQ 33] (7th Cir. 1982); *Warner Bros., Inc. v. American Broad. Cos.*, 654 F.2d 204 [211 USPQ 97] (2nd Cir. 1981). The test for substantial similarity may itself be expressed in two parts: whether the defendant copied from the plaintiff’s work and whether the “copying, if proven, went so far as to constitute an improper appropriation.” *Atari*, 672 F.2d at 614. Because it is pretty clear here that Global VR set out to copy the Golden Tee game, the second question comes closer to the issue we must face, and it leads us to the “ordinary observer” test: “whether the accused work is so similar to the plaintiff’s work that an ordinary reasonable person would conclude that the defendant unlawfully appropriated the plaintiff’s protectible expression by taking material of substance and value.” *Atari*, 672 F.2d at 614. It seems somehow fitting that the *Atari* case, involving the insatiable little yellow circle PAC-MAN, is a leading case guiding us through the maze of copyright law as applied to video games.

In these games, an ordinary observer, seeing a golf game on the video display and a trackball to operate the game, might easily conclude that the games are so similar that the Global VR game must infringe the Golden Tee game. But because ideas—as opposed to their expression—are not eligible for copyright protection, *see Mazer v. Stein*, 347 U.S. 201 [100 USPQ 325] (1954), protection does not extend to the game itself. *Atari*, 672 F.2d at 615; *Chamberlin v. Uris Sales Corp.*, 150 F.2d 512 (2nd Cir. 1945). For other reasons, which we will soon discuss, protection does not extend to the trackball. It is clear, then, that the concept of the ordinary observer must be viewed with caution in this case, and we must heed the principle that, despite what the ordinary observer might see, the copyright

### Page 1034

laws preclude appropriation of only those elements of the work that are protected by the copyright. *Atari*, 672 F.2d at 614.

In fact, there are several specific limitations to copyright protection with some relevance to this case. One is the *scènes à faire* doctrine. The doctrine refers to “incidents, characters or settings which are as a practical matter indispensable, or at least standard, in the treatment of a given topic.” These devices are not protectible by copyright. *Atari*, 672 F.2d at 616. For instance, the mazes, tunnels, and scoring tables in Atari’s PAC-MAN were *scènes à faire*.

In addition, the Copyright Act provides that copyright protection does not extend to any “method of operation ... regardless of the form in which it is described, explained, illustrated, or embodied in such work.” 17 U.S.C. §102(b). The Court of Appeals for the First Circuit has declined to extend copyright protection to a set of commands for a computer

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program. Even if there are multiple methods by which an operation can be performed, a plaintiff's choice of a particular method of operation is not eligible for protection. *Lotus Dev. Corp. v. Borland Int'l, Inc.*, 49 F.3d 807 [34 USPQ2d 1014] (1st Cir. 1995).

Useful articles and functional elements are also excluded from copyright protection. *American Dental Ass'n v. Delta Dental Plans Ass'n*, 126 F.3d 977 [44 USPQ2d 1296] (7th Cir. 1997). A useful article is defined in the copyright act as "an article having an intrinsic utilitarian function that is not merely to portray the appearance of the article or to convey information." The design of a useful article is considered a "pictorial, graphic, or sculptural work only if, and only to the extent that, such design incorporates pictorial, graphic, or sculptural features that can be identified separately from, and are capable of existing independently of, the utilitarian aspects of the article." 17 U.S.C. §101. The separability issue has caused considerable consternation. See our recent discussion in *Pivot Point International, Inc. v. Charlene Products, Inc.*, 372 F.3d 913 [71 USPQ2d 1225] (7th Cir. 2004).

The exclusion of functional features from copyright protection grows out of the tension between copyright and patent laws. Functional features are generally within the domain of the patent laws. As we said in *American Dental*, an item may be entirely original, but if the novel elements are functional, the item cannot be copyrighted: although it might be eligible for patent protection,

[a]n article with intertwined artistic and utilitarian ingredients may be eligible for a design patent, or the artistic elements may be trade dress protected by the Lanham Act or state law.

126 F.3d at 980.

That means that the elements of our two games, which are most significant and most clearly similar, are not before us. The trackball system of operating the game is not subject to copyright protection. Functional features, such as the trackball system, might, at least potentially might, be eligible for patent protection.<sup>2</sup> See *American Dental Ass'n*, 126 F.3d 977 [44 USPQ2d 1296]. But that protection would be for a significantly shorter period of time than copyright protection. So the anomaly is that a party can conceivably obtain more significant protection for the relatively less significant aspects of its product. For instance, in this case we are concerned, not with the trackball system but with things such as whether arrows pointing to the direction a golf ball will fly are sufficiently original to merit protection under the copyright laws.

With this discussion out of the way, we move to the issues which are before us, as framed by IT. Those issues are whether the district court erred as a matter of law in creating a new "best explanation exception" to copyright protection; whether the district court erred as a matter of law in finding that the *scènes à faire* doctrine eliminated copyright protection for its video game expressions; and whether the district court erred as a matter of law in concluding that IT's trade dress in the control panel is functional. In discussing the issues, of course, we are concerned only with whether the district court abused its discretion in finding that IT did not have a likelihood of success of prevailing on the merits of its claims at trial.

IT first contends that the district court misunderstood how the trackball system works, which led it to commit a legal error in evaluating the control panel and instructions. As we

said, to operate both games, the trackball is rolled back toward the player to effectuate the back swing of the golfer on the video screen

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and pushed forward to complete the down swing. Directions on the control panel show how to make various shots, such as a draw, a fade, etc., by changing the angle at which the trackball is rolled back and forward. Nine specific shots are shown on the video display. The district court referred to "the" 9 different shot examples shown on the control panel. This, IT contends, shows that the district court thought that the 9 shots were the only possible shots when, in fact, subtle variations exist so that many more than 9 shots are available.

This fundamental misunderstanding, IT says, led the district court to a legal error. As IT puts it in a heading in its brief, the "district court erred as a matter of law in creating a revolutionary new 'best explanation' exception to copyright protection." The result of the new exception would be that the " 'best' physics textbook would have no copyright protection and could be freely copied, simply because it is the 'best.' " That argument certainly grabs one's attention: What was the district judge thinking?

As it turns out, we need not be hysterical about district judges creating random exceptions to the copyright laws. The district judge here, Matthew F. Kennelly, concluded that the instructions on the control panel were not creative expressions and that there was "no evidence in the record to suggest that IT considered anything other than how best to explain its trackball system when it designed the text and instructional graphics featured on Golden Tee." It is from this rather innocuous statement that IT says the judge created a wholly new exception. We disagree with that interpretation. In context, it seems clear that what the judge was saying is that while there arguably are more ways than one to explain how the trackball system works, the expressions on the control panel of Golden Tee are utilitarian explanations of that system and are not sufficiently original or creative to merit copyright protection. Furthermore, the judge said, to the extent they might be subject to a copyright, they would merit protection only against virtually identical copying.

What IT is talking about on the control panel are the following: a horizontal graphic which shows the trackball motions used to control the flight path of the ball and small indicating arrows above the graphic; three white buttons of the left side of the trackball and two buttons, one red, one white, on the right of the trackball; and the textual instructions in the bottom right corner. Undoubtedly, there is similarity between the two games in the instructions on the control panel as well as in the layout of the controls themselves.

[1] As to the instructions, we cannot say that the district judge abused his discretion in finding that the element of creativity is slight and can be protected only against identical copying, which does not exist. The element of creativity in the instructions is less than minimal. Both games use arrows to indicate the direction in which to roll the track-ball in order to obtain certain results. While it is possible that something other than an arrow could have been used to indicate direction, use of an arrow is hardly imaginative or creative in this situation. Also, the designs of the arrow surrounding the trackball differ significantly in the two games as do the graphics showing shot-shaping possibilities.

To a large degree, the layout of the controls seems to have been dictated by functional considerations. The trackball almost necessarily must be in the center of the control panel so that right- and left-handed players can use it equally well. It must not be so close to the upright video display that a player would smash her hand into the screen too forcefully after making a shot. Global VR claims that the buttons must be aligned across the center of the control panel for ease of manufacturing. We do not find an abuse of discretion in the district court's conclusions that the buttons appear to have been placed where they are for purposes of convenience and cannot be said to be expressive. We also note that on Golden Tee, the white button to the right of the trackball is labeled "backspin" and provides for just that; on the Global VR game, the corresponding button is labeled "shot type" and provides for backspin and topspin.

IT also contends that the district court erred as a matter of law in finding that the *scènes à faire* doctrine applied to eliminate copyright protection for the video imagery. Global VR, of course, disagrees, although it acknowledges that, in an appropriate case, the imagery of a video arcade game may be protected by a copyright. However, Global VR argues that in this case the elements over which IT claims protection are inherent either in the idea of video golf or are common to the creation of coin-operated video games in general. The district court agreed and determined that many

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elements of the video display were common to the game of golf. For instance, the wind meter and club selection features were found to account for variables in real golf and so were indispensable to an accurate video representation of the game. Furthermore, the court said that the game selection features, such as the menu screens which indicate the number of players and other variables of the game, are common to the video-game format.

As we said, *scènes à faire* refers to incidents, characters, or settings which are as a practical matter indispensable, or at least standard in the treatment of a given topic. Looking again at *Atari*, we see that the court found that the game was primarily unprotectible:

PAC-MAN is a maze-chase game in which the player scores points by guiding a central figure through various passageways of a maze and at the same time avoiding collision with certain opponents or pursuit figures which move independently about the maze.

*Atari*, 672 F.2d at 617. Certain expressive matter in the game was treated as *scènes à faire* and would therefore receive protection only from virtually identical copying. The court said that the "maze and scoring table are standard game devices, and the tunnel exits are nothing more than the commonly used 'wrap around' concept adapted to a maze-chase game." *Atari*, 672 F.2d at 617. The use of dots to award points was also *scènes à faire*. The allegedly infringing game, *K. C. Munchkin*, had slight but sufficiently different versions of these items to preclude a finding of infringement. The court went on to find, however, that the concepts of the central figure as a "gobbler" and the pursuing figures as "ghost monsters" were wholly fanciful and thus subject to more protection. *K. C. Munchkin* had "blatantly similar features," giving *Atari* a likelihood of success of showing infringement.



[2] In contrast, we see no error of law in Judge Kennelly's finding that the Global VR video display is subject to the *scènes à faire* doctrine. Like karate, *see Data East USA, Inc. v. Epyx, Inc.*, 862 F.2d 204, 209 [9 USPQ2d 1322] (9th Cir. 1988), golf is not a game subject to totally "fanciful presentation." In presenting a realistic video golf game, one would, by definition, need golf courses, clubs, a selection menu, a golfer, a wind meter, etc. Sand traps and water hazards are a fact of life for golfers, real and virtual. The menu screens are standard to the video arcade game format, as are prompts showing the distance remaining to the hole. As such, the video display is afforded protection only from virtually identical copying.

Given that certain items are necessary to making the game realistic, the differences in the presentation are sufficient to make IT's chances of success on the merits unlikely. Global VR has "real" courses and "real" golfers; Golden Tee's courses are imaginary and its golfers generic. In the Global VR game, a golf bag appears on the screen as the player chooses a club for the shot he intends to play. Global VR offers a "grid" mapping the green as a guide for putting. Golden Tee has no such device. Also, the Global VR game has a helicopter that whirls overhead from time to time. Both games mimic condescending real television golf announcers, but the announcers use different phrases: "the fairway would be over there" and "I don't think that's going to help a whole lot" in Global VR versus "That can only hurt," "You've got to be kidding," and "You can lead a ball to water but ..." from the Golden Tee announcers. Judge Kennelly did not abuse his discretion on this point.

[3] The trade dress claim requires little discussion. The term trade dress refers to the "appearance of a product when that appearance is used to identify the producer." *Publications Int'l, Ltd. v. Landoll, Inc.*, 164 F.3d 337, 338 [49 USPQ2d 1139] (7th Cir. 1998). To prevail on a trade dress claim, IT must establish that its trade dress is nonfunctional, that it has acquired secondary meaning, and that a likelihood of confusion exists between the trade dress of the two games. *Computer Care v. Service Sys. Enters., Inc.*, 982 F.2d 1063 [25 USPQ2d 1020] (7th Cir. 1992). Although IT frames the issue as involving only the control panel, both parties veer into a discussion of their cabinets. Of the cabinets, we will say only that they are somewhat similar in shape, but so are most arcade game cabinets. The shapes of the sides of the cabinets are different; the coloring is different. The sides of the Golden Tee cabinet are white, while the much less subdued PGA Tour cabinet is an intense blue. The only words or logos on the sides of the Golden Tee cabinet, set off in yellow, are "IT Incredible Technologies" in an upper corner and a circle with "G Fore T"

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printed inside. On the other hand, the Pro Tour cabinet has a good deal more going on. It starts with "Global VR Presents." Then there is a circle containing the words "EA Sports PGA Tour Golf." Below the circle are the words

Real Courses

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Real Golfers

Real Golf

all with the PGA Tour logo between the words. The PGA Tour logo, by the way, appears five times on each side of the cabinet.

As to the control panel, we see no error in the district court's conclusion that IT had no likelihood of success on this claim. The control panel and the trackball system are functional.

The Global VR game is emblazoned with the name EA Sports™ and PGA Tour® Golf logos. Its coloring is different and considerably bolder than that of the Golden Tee game. Golden Tee provides arrows to demonstrate its descriptions of the trackball system; Global VR does not. Global VR names the shots in its shot-shaping diagrams; Golden Tee does not.

IT argues, however, that the district court did not take into account what happens in the marketplace. IT says, "Bar and tavern patrons, often in dimly lit spaces, typically approach and play these video games while consuming alcohol; they are not consumers using high degrees of care in selecting, identifying, or differentiating the Golden Tee and PGA Tour games"! One wonders how different the control panels would have to be to avoid confusing such users. The decision of the district court denying IT's request for preliminary injunction relief is AFFIRMED.

## Footnotes

<sup>1</sup> The version we will be discussing is Golden Tee Fore!, which IT started selling in February 2000.

<sup>2</sup> However, as IT acknowledges, Golden Tee was not the first video golf game to use the trackball format, making a patent somewhat unlikely.

- End of Case -  
A0B0Q3K1K9



**UNITED STATES DISTRICT COURT  
CENTRAL DISTRICT OF CALIFORNIA**

**ACTIVISION PUBLISHING, INC.,**

Plaintiff,

v.

**GIBSON GUITAR CORP.,**

Defendant.

Case No. CV 08-1653-MRP (SHx)

**CLAIM CONSTRUCTION FOR  
CLAIM TERMS “MUSICAL  
INSTRUMENT” AND  
“INSTRUMENT AUDIO SIGNAL”**

In this action for declaratory relief, Plaintiff Activision Publishing, Inc. (“Activision”) seeks judgment that its “Guitar Hero”-branded video games and associated peripherals (collectively, “Guitar Hero”) do not infringe Defendant Gibson Guitar Corp. (“Gibson”)’s U.S. Patent No. 5,990,405 (“the ‘405 Patent”).

The parties agree that at least two claim terms of the ‘405 Patent, “musical instrument” and “instrument audio signal,” require the Court’s construction to resolve this action.<sup>1</sup> The Court directed the parties to propose constructions for the two terms and submit briefs in support of their positions by August 28, 2008. It conducted a hearing on the matter on September 3. At the hearing, the Court agreed to entertain a request for additional briefing. The parties submitted additional briefing on September 12. The Court now construes the terms before it.

<sup>1</sup> The Court notes that other claim terms could ultimately require claim construction. At the time of the August 4, 2008 teleconference, however, the parties had not yet reached agreement on any such terms. The Court decided, after discussion with the parties, to proceed first with the two agreed-upon terms in order to resolve promptly the most apparent disputes in claim construction.

I.

**BACKGROUND**

The complete background of this case has been described in detail in the Court’s previous orders. *See, e.g.*, Order Denying Plaintiff’s Motion for a Preliminary Injunction, May 20, 2008.

The ‘405 Patent, entitled “System and Method for Generating and Controlling a Simulated Musical Concert Experience,” contains thirty claims. Gibson asserts that Guitar Hero infringes claims 1, 13-15, 23, and 28. Claims 1, 13, 21, 25, and 28 are independent claims; claims 14-15 depend on claim 13; and claim 23 depends on claim 21. At issue are two claim terms, “musical instrument” and “instrument audio signal,”<sup>2</sup> which appear frequently in the claims and in the remainder of the specification.

As general background, the invention relates to a system whereby a musician can control a “simulated musical concert experience” using a musical instrument as the control device. ‘405 Patent at col. 1:8-1:12. Claims 1, 21, 25, and 28—that is, all the independent claims except 13—disclose a system where a musical performance is pre-recorded on at least two separate sound tracks: one for a “specific musical instrument” and one for the remaining instruments and other sound components. *See id.* at col. 1:63-2:14. A user plays a musical instrument “corresponding to the specific musical instrument.” *Id.* at col. 2:15-2:17. The instrument outputs an “instrument audio signal,” which a “system interface device” then uses to vary some characteristic of the specific instrument track. *Id.* at col. 2:23-2:27. *See also id.* at cl. 1(f). A mixer combines the “controlled instrument sound track”—that is, the “specific musical instrument” sound track—with the other instrument tracks and ultimately outputs audio for the user to hear. *See id.* at col. 2:32-2:38. The remaining independent claim, claim 13, does not require a separate “controlled” or “specific” instrument sound track. That claim requires only that the instrument audio signal control “at least one characteristic” of a pre-recorded musical performance. *See id.* at cl. 12.

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<sup>2</sup> The patent uses the term “audio signal” in claims 25 and 28 and “electrical audio signal” within the specification. The parties have agreed that these terms are synonymous with “instrument audio signal” for purposes of the ‘405 Patent. Activision Claim Constr. Br., at 8 n.4; Sept. 3 Hearing Tr. at 38:1-38:3; *id.* at 64:14-64:17.

1 With the exception of claim 21,<sup>3</sup> each of the independent claims in the ‘405 Patent  
 2 (claims 1, 13, 25, 28) uses the term “musical instrument” to describe the device used to control  
 3 the simulation and “instrument audio signal” to describe the signal the device outputs to control  
 4 the simulation.

5 Claim 1, for example, explains that “in response to operation of the musical instrument  
 6 by the user,” a “system interface device” controls a characteristic of an audio signal representing  
 7 an audio portion of a pre-recorded musical instrument. ‘405 Patent at cl. 1. This is  
 8 accomplished through an “instrument audio signal,” which inputs to that “system interface  
 9 device” and “var[ies] in response to the operation of the instrument by the user of the system.”

10 *Id.*

11 The other independent claims employing these terms do so in a roughly analogous way.  
 12 *See e.g., id.* at cl. 13 (“[t]he musical instrument producing instrument audio signals at an  
 13 instrument audio output when the instrument is played” and “whereby at least one characteristic  
 14 of the audio portion of the pre-recorded musical performance is controlled by playing of the  
 15 musical instrument by the user”); *id.* at cl. 25 (“varying . . . at least one parameter of the  
 16 instrument sound track in response to audio signals generated by a musical instrument when  
 17 played by a musician”); *id.* at cl. 28 (“a musical instrument having an instrument audio output . .  
 18 . and a signal conditioning circuit responsive to audio signals generated by the musical  
 19 instrument when the instrument is played.”).

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 26 <sup>3</sup> Claim 21 uses the narrower term “guitar” instead of the more general term “musical instrument.” Though the term  
 27 “guitar” is not before the Court, the Court at this juncture is strongly inclined to consider “guitar” a subset of  
 28 “musical instrument,” incorporating all the limitations of “musical instrument” as well as any additional limitations  
 that may be entailed by the term “guitar.” This accords with the term’s usage in the rest of the patent: both claims 1  
 and 13, which use “musical instrument,” have dependent claims that disclose a system “where in the musical  
 instrument is a guitar.” ‘405 Patent at cls. 3, 15. Thus, the rest of the patent treats “guitar” as a species of “musical  
 instrument.”

1 **II.**

2 **LEGAL STANDARD**

3 “The claims of a patent define the invention to which the patentee is entitled the right to  
4 exclude.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (en banc), *cert.*  
5 *denied*, 546 U.S. 1170 (2006). (citations omitted). Construction of the terms of art within the  
6 claims is exclusively the province of the Court. *Markman v. Westview Instruments, Inc.*, 517  
7 U.S. 370, 372 (1996). During this construction, “[t]he words of a [patent] claim are generally  
8 given their ordinary and customary meaning,” which is “the meaning that the term would have to  
9 a person of ordinary skill in the art in question . . . as of the [patent’s] effective filing date.”  
10 *Phillips*, 415 F.3d at 1313. “Importantly, the person of ordinary skill in the art is deemed to read  
11 the claim term not only in the context of the particular claim in which the disputed term appears,  
12 but in the context of the entire patent, including the specification.” *Id.* The patent’s specification  
13 is “the single best guide to [its] meaning.” *Id.* at 1315.

14 The court must not, however, import an improper limitation from the specification into a  
15 claim by, for example, confining a claim to the embodiments listed in the specification when it is  
16 not warranted. *Id.* at 1323; *see also E.I. DuPont de Nemours & Co. v. Phillips Petroleum Co.*,  
17 849 F.2d 1430, 1433 (Fed. Cir. 1988). Thus, “[t]he construction that stays true to the claim  
18 language and most naturally aligns with the patent’s description of the invention [in the  
19 specification] will be, in the end, the correct construction.” *Phillips*, 415 F.3d at 1316 (quoting  
20 *Renishaw PLC v. Marposs Societa’ Per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998)).

21 In construing claim terms, a court should also consider any other evidence intrinsic to the  
22 patent file, including “the complete record of the proceedings before the PTO [and] the prior art  
23 cited during the examination of the patent.” *Id.* at 1317. As with the specification, the  
24 prosecution history may demonstrate how the PTO and the applicant understood the patent, as  
25 “well as whether the inventor limited the invention in the course of prosecution, making the  
26 claim scope narrower than it would otherwise be.” *Id.* However, the file evidence should not be  
27 given undue weight because the statements in it are part of “an ongoing negotiation” between the  
28 patent office and the inventor and thus “often lack[] the clarity” of the final product. *Id.*

1 Finally, the court may also consider relevant extrinsic evidence, which is “all evidence  
 2 external to the patent and prosecution history, including expert and inventor testimony,  
 3 dictionaries, and learned treatises.” *Id.* The Court uses this type of evidence with caution as the  
 4 Federal Circuit has explained that evidence is generally “less significant than the intrinsic record  
 5 in determining the legally operative meaning of claim language.” *Id.* (citations omitted). When  
 6 used, extrinsic evidence cannot “vary or contradict” claim language, *Vitronics Corp. v.*  
 7 *Conceptronic, Inc.*, 90 F.3d 1576, 1584 (Fed. Cir. 2003), but it can be useful “for a variety of  
 8 purposes, such as to provide background [and] to ensure that the court’s understanding of the  
 9 technical aspects of the patent is consistent with that of a person with skill in the art, or to  
 10 establish that a particular term in the patent or the prior art has a particular meaning in the  
 11 pertinent field.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1318 (Fed. Cir. 2005)

### 12 13 III. 14 DISCUSSION

15 The task before the Court is to provide these two terms “the meaning that [they] would  
 16 have to a person of ordinary skill in the art in question” in the context of the entire patent.  
 17 *Phillips*, 415 F.3d at 1313. The parties essentially agree that a “musical instrument” must be  
 18 capable of producing an “instrument audio signal.”<sup>4</sup> The Court is left to determine (1) what type  
 19 of devices the term “musical instrument” captures and (2) what type of “instrument audio  
 20 signals” they must be capable of producing.

21 Gibson proposes a broad construction of the terms. It would require that a “musical  
 22 instrument” need only “indirectly produce music” and perhaps have no more than a mere  
 23 appearance “that corresponds to a specific type of instrument used in the musical performance.”  
 24 In Gibson’s view, the musical instrument need only be capable of producing an “instrument  
 25 audio signal” that is “representative of the sounds intended to be made by operating the musical  
 26 instrument” or “corresponds to the instrument used to create a separated soundtrack.”

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<sup>4</sup> Both parties propose constructions that capture this requirement, albeit in slightly different ways.

1           Activision proposes a much narrower construction. It would define “musical instrument”  
2 as a “traditional musical instrument,” though Activision never provides a coherent definition of  
3 “traditional.” Under Activision’s construction, an “instrument audio signal” must be both  
4 “audible” and representative of the sounds made by the instrument.

5           The Court concludes that the ‘405 Patent requires that a “musical instrument” must be  
6 capable of (1) making “musical sounds,” *see, e.g., id.* at col. 2:1-2:2 (“musical sounds that  
7 would be made . . . by a specific musical instrument”); and (2) either directly, or indirectly  
8 through an interface device, producing an instrument audio signal representative of those  
9 sounds.<sup>5</sup> *See, e.g., id.* at col. 5:14-5:16 (“musical instruments which either directly, or indirectly  
10 through an interface device, will produce electrical audio signals”). The Court also determines  
11 that the patent establishes that the two requirements are distinct; and, in particular, that the  
12 instrument must be capable of making musical sounds independent of the mechanism that  
13 outputs the instrument audio signal.

14           Given this detailed definition of “musical instrument” (and its inherent constraint on the  
15 signals produced), the Court finds that an “instrument audio signal” need only be construed as  
16 “an electrical signal output by a musical instrument.” *See id.* Thus, to summarize:

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28 <sup>5</sup> The Court notes that the “musical instruments” contemplated in the ‘405 Patent exclude some conventional  
musical instruments. The parties agree on this point, as they both propose constructions of this term that include the  
capability to generate and output electrical signals. Instruments without this capability (*e.g.*, a standard trombone)  
would not constitute a musical instrument under the Patent and, indeed, would not work for purposes of this  
invention.

<b>‘405 Patent</b>		
	“musical instrument”	“instrument audio signal”
<b>Activision’s Proposed Construction</b>	a traditional instrument that generates instrument audio signals	an audible signal generated by a musical instrument that is representative of the sounds made by the instrument
<b>Gibson’s Proposed Construction</b>	a device which can be used to directly or indirectly produce music and is capable of outputting an instrument audio signal (as that term is defined below) and has an appearance that corresponds to a specific type of instrument used in the musical performance	an electrical signal output by the musical instrument (as defined above) that is representative of the sounds intended to be produced by operating the musical instrument, either directly or indirectly after the signal is processed by an interface device
<b>Court’s Construction</b>	an instrument that is capable of making musical sounds, and either directly, or indirectly through an interface device, producing an instrument audio signal representative of those sounds	an electrical signal output by a musical instrument

The Court explains its construction by considering the claim language, the specification, and the patent’s distinctions over the prior art. It also evaluates the parties’ proposals and arguments in turn.

#### **A. Claim Language**

Claim construction must begin with—and remain centered on—the claim language itself, for that is the language the patentee has chosen to particularly point out and distinctly claim the subject matter which the patentee regards as his invention. *Innova/Pure Water, Inc. v. Safari Water Filtration Sys.*, 381 F.3d 1111, 1116 (Fed. Cir. 2004) (citations omitted) (reaffirmed in *Phillips*, 415 F.3d at 1312). The claim language here does not provide much help in resolving the claim construction issues before the Court, as those issues generally turn on distinctions not made in the claims. Most important, the claim language, read in isolation, might not necessarily foreclose the broad construction that Gibson proposes because some claims contemplate a simulation where the user’s play is not directly played back to the user.

A simple example illustrates the point. A user may operate one embodiment of the patent



1 by playing an electric guitar while wearing a headset that receives play back from a mixer.  
 2 When the user strums the strings in some sequence, he produces musical sounds represented in a  
 3 signal that the guitar outputs via its “instrument audio output” to the “system interface device.”  
 4 The “system interface device” also has available an audio track of a pre-recorded song.<sup>6</sup> The  
 5 system interface device may disregard entirely all “musical” characteristics of the instrument  
 6 audio signal, so long as it controls one characteristic of the pre-recorded track in response to the  
 7 operation of the guitar. It might, for example, control play back of the pre-recorded track at a  
 8 volume fluctuating in response to the force by which the user strikes the strings. *See, e.g.*, ‘405  
 9 Patent at col. 2:34-2:38. Thus, irrespective of the user’s choice of strings, frets, or notes, he will  
 10 hear, through the headset, precisely the same music, varying only in volume depending on how  
 11 forcefully he strikes the strings of the guitar.

12 In this example, the simulation does not actually play back the user’s guitar play. Claim  
 13 1 does not require such a feature, and the other relevant independent claims are roughly  
 14 analogous. Because the independent claims lack such a requirement,<sup>7</sup> they may appear on a  
 15 superficial reading to be consistent with a control device that does not have actual musical  
 16 sound-making ability at all.

17 Gibson’s proposed constructions seek to capture such devices. In relevant part, it  
 18 construes musical instruments to include devices that “indirectly make music” by outputting an  
 19 instrument audio signal representative of the sounds the user “intended” to make by operating the  
 20 instrument.

## 21 22 **B. The Remainder of the Specification**

23 Of course, claims are not to be “read . . . only in the context of the particular claim in  
 24 which the disputed term appears, but in the context of the entire patent, including the  
 25 specification.” *Phillips*, 415 F.3d at 1313. The Court now turns to the remainder of the  
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27 <sup>6</sup> This is accomplished using a “source audio signal” representing that pre-recorded song.

28 <sup>7</sup> Dependent claim 5 describes a “bypass mode” where the system does play back directly the user’s play. It is thus inconsistent with a control device that cannot independently make musical sounds. However, as it is a dependent claim, the Court will not import its requirements into the independent claims that express no such limitation.

specification—in particular, statements made in the written description and distinctions made with respect to the prior art—to provide context.<sup>8</sup> The Court finds that these sources preclude the broad construction Gibson proposes, even if the claim language read in isolation does not.

#### a. Statements in the Specification

The written description very clearly describes specific embodiments of this invention that are controlled by (1) an electric guitar; and (2) an amplified acoustic guitar. These guitars, of course, produce musical sounds directly when a user manipulates them without any other components.<sup>9</sup> However, it would be improper to “confine a claim to the embodiments listed in the specification when it is not warranted.” *Phillips*, 415 F.3d at 1323.

It is certainly not warranted here, as the written description expressly states that the system is not limited to those two examples. The specification explains that “[a]lthough [the system] is shown and described for use with an electric or amplified acoustic guitar, it can be used with a variety of other musical instruments which either directly, or indirectly through an interface device, will produce electrical audio signals representative of the sounds made by the instrument.” ‘405 Patent at col. 5:12-5:17. The specification has thus defined the world of “musical instruments” that can be used by the system. The Court finds this highly instructive to

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<sup>8</sup> The Court finds that the patent itself decisively mandates the conclusions it reaches. It has examined the other sources cited by Gibson, including its reexamination request, but concludes without further discussion that those statements cannot overcome the statements made in the patent. *Cf. Honeywell Int’l, Inc. v. ITT Industries, Inc.*, 452 F.3d 1312, 1319 (Fed. Cir. 2006) (“Where, as here, the written description clearly identifies what his invention is, an expression by a patentee during prosecution that he intends his claims to cover more than what his specification discloses is entitled to little weight.”). No differently, the Court finds unpersuasive different definitions adopted by Gibson’s witness, Mr. Richard Gembar, and citations to other patents that define “musical instruments” more broadly. *See, e.g., Medrad, Inc. v. MRI Devices Corp.*, 401 F.3d 1313, 1318 (Fed. Cir. 2005) (“A patentee may define a particular term in a particular way, and in that event the term will be defined in that fashion for purposes of that particular patent, no matter what its meaning in other contexts.”); *Phillips*, 415 F.3d at 1318 (“[C]onclusory, unsupported assertions by experts as to the definition of a claim term are not useful to a court.”).

<sup>9</sup> To be clear, an electric guitar may use external devices to amplify the sounds it has made. However, it directly makes musical sounds in the first instance. Both parties agree on this point, each having represented to the Court that an electric guitar produces musical sounds even without an amplifier or other external devices. *See* Decl. of Activision’s proffered expert Dr. Gareth Loy ¶49 (“Because the instrument audio signals have a waveform that is analogous to the sounds generated by the musical instrument, the instrument audio signals will cause the speakers to vibrate analogously to the acoustic sounds the instrument generates”); Decl. of Gibson’s Mr. Richard Gembar ¶10 (referring to “the sounds made” when the strings of an unplugged electric guitar vibrate—sounds that an amplifier merely “amplifie[s]” rather than generates).

1 defining the claim term “musical instrument.” *See Phillips*, 415 F.3d at 1321 (explaining that the  
2 specification “acts as a dictionary when it expressly defines terms used in the claims or when it  
3 defines terms by implication”) (citations omitted).

4 This statement indicates that a “musical instrument” under the ‘405 Patent must be  
5 capable of making musical sounds—if it could not, the instrument certainly could not produce  
6 electrical audio signals representative of the musical sounds made. Likewise, in summarizing  
7 the invention elsewhere, the specification describes the “musical sounds that would be made . . .  
8 by a . . . musical instrument.” ‘405 Patent at col. 1:67-2:3; *accord* claim 1(a) (using the same  
9 phrase). *See also id.* at col. 2:10-2:12 (describing the “concert sound track” as containing “music  
10 from other . . . instruments”).

11 The statement also establishes that the musical instrument makes musical sounds  
12 independent of the “instrument audio signal.” This is because the “musical instrument”  
13 represents the sounds it made in its instrument audio signal. Thus, the Court’s construction,  
14 which describes an instrument that is capable of producing an instrument audio signal  
15 representative of those sounds (the sounds the instrument made) is consistent with this statement.

16 Any construction that seeks to capture a device that can only make musical sounds  
17 following processing of its instrument audio signal<sup>10</sup> does not align with this description, and is  
18 therefore incorrect. *See Phillips*, 415 F.3d at 1316 (explaining that “[t]he construction that stays  
19 true to the claim language and most naturally aligns with the patent’s description of the invention  
20 [in the specification] will be, in the end, the correct construction”) (citations omitted). Gibson  
21 proposes a construction that is very clearly unaligned with this axiom. Gibson inserts the words  
22 “indirectly” and “intended” into its definition, thereby attempting to include as a “musical  
23 instrument” any device that “indirectly” produces music by generating an “instrument audio  
24 signal” representative of the sounds “intended” to be produced by operating the instrument.

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27 <sup>10</sup> The patent discloses some systems with a headset that would prevent the user from hearing the sounds made by  
28 the musical instrument itself. Col 4:61-65. Gibson’s Reply Brief correctly points out that in such embodiments the  
user never hears the instrument, but that observation misses the point: such a system still presupposes that the  
musical instrument generates something the user can listen to without activating the bypass mode. That is, the  
musical instrument of this system must still be able to make musical sounds on its own.

1 Gibson's proposed construction thus captures a device that only makes sounds subsequent to  
 2 processing of its instrument audio signal (which represents the user's intent). *See* Gibson's  
 3 Claim Constr. Br. at 17.

4 The Court finds that Gibson's use of "indirectly" and "intended" impermissibly distorts  
 5 the meaning of this statement. The specification does not use those terms, and a natural reading  
 6 precludes the use of those terms because the signal must be representative of the sounds made by  
 7 the instrument—irrespective of the user's intent.<sup>11</sup>

8 Further, this conclusion does not change because, according to the specification, musical  
 9 instruments "either directly, or indirectly through an interface device, will produce electrical  
 10 audio signals." '405 Patent at col. 5:15-5:17 (emphasis added). Even if an instrument uses an  
 11 interface device, the instrument audio signal it produces must be "representative of the sounds  
 12 made by an instrument." *Id.* Thus, the presence of an interface device does not affect the two  
 13 requirements here (1) that the instrument is capable of making sounds; and (2) that it is capable  
 14 of producing an electrical audio signal representative of those sounds. The Court nonetheless  
 15 adopts the phrase "directly, or indirectly through an interface device" verbatim into its  
 16 construction because that clause informs how the instrument audio signal is produced.

17 The Court must clarify some confusion over the patents' use of "interface" and "signal"  
 18 that became evident at the hearing. At the hearing on this matter, Gibson proposed that an  
 19 "interface device" is a device used by the instrument to produce music. *See* Sept. 3 Hearing Tr.  
 20 at 44:13-44:20. However, a musical instrument must be capable of directly outputting the  
 21 requisite "instrument audio signal" regardless of whether it uses an interface device to "produce"

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22  
 23 <sup>11</sup> Certainly, the musical sounds made by the instrument may be related to the user's intent. However, that is not  
 24 necessarily the case, and the patent ties the instrument audio signal to the actual sounds made and not to the user's  
 25 intent. The Court further notes that, coupled with Gibson's expansive definition of "musical instrument," using the  
 26 word "intended" in a definition for "instrument audio signal" essentially writes the term "musical instrument" out of  
 27 the patent. Combining the two proposed constructions make a musical instrument out of any device that outputs any  
 28 signal that a downstream component can interpret and make into music. It matters not what that device is because  
 the user can "intend" to produce virtually any musical sounds by operating the device, even though it is not until  
 later that those sounds are actually made. For example, a user could push the "play" button on a stereo, which  
 causes the button to output a signal "representative" of the music the user intended to "play." As the button  
 "indirectly produced" music, the "play" button would have to be deemed a "musical instrument" (assuming it was of  
 appropriate appearance). Quite obviously, these constructions operating together expand the scope of this terms to  
 things that could not conceivably be musical instruments under any reasonable definition of that term.

1 such a signal indirectly. Such a conclusion is necessitated by the claim language, which requires  
 2 that the musical instrument “generate[s] an instrument audio signal at an instrument audio  
 3 output.” *See, e.g.*, ‘405 Patent at cl. 1(a). The instrument audio output is part of the musical  
 4 instrument. *See id.* at col. 2:15-2:20 (“a musical instrument . . . has [an] audio output.”); fig. 1  
 5 col. 4:5-4:10 (depicting and describing the musical instrument’s “instrument audio output”).  
 6 Thus, the role of the interface device has no bearing on the notion that the musical instrument  
 7 directly outputs an instrument audio signal at its instrument audio output.<sup>12</sup> It therefore also does  
 8 not affect the requirement that the instrument be capable of producing “musical sounds” (which  
 9 are, by definition, represented in the “instrument audio signal”).

10 As a consequence of this reasoning, the aforementioned interface device is necessarily  
 11 distinct from the “system interface device” and “interface box” described elsewhere in the patent  
 12 and in the claims. The latter terms refer to devices that input the “instrument audio signal” from  
 13 the musical instrument and use it to control another signal that represents the pre-recorded  
 14 instrument track. They can be viewed as a different part of the system because they input the  
 15 fully formed “instrument audio signal” and essentially have nothing to do with generating the  
 16 instrument’s output of the signal prior to that (which is precisely what the “interface device”  
 17 purports to do). *See, e.g.*, ‘405 Patent at cl. 1(e)-(f) (describing a “system interface device having  
 18 a first audio input electrically connected to the instrument audio output” and a circuit “responsive  
 19 to the instrument audio signal”); *id.* at col. 2:15-2:19 (“a musical instrument . . . has its audio  
 20 output connected to an instrument input on a system interface box”). This is a distinction that  
 21 Gibson would not make at the hearing, where, immediately after discussing at length the  
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23 <sup>12</sup> The Court finds merit in Activision’s example of an amplified acoustic guitar (which is discussed in the very same  
 24 sentence as the “interface device”) as an instrument that uses an interface device to produce a signal. Sept. 3  
 25 Hearing Tr. at 28:5-28:23. More generally, any “transducer” could serve as an “interface device” if it converted the  
 26 sounds made by the instrument into an “instrument audio signal” representative of those sounds. *See* Section III.C,  
 27 *infra* (defining transducer). Thus, the musical instrument generates an “instrument audio signal” indirectly through  
 28 an “interface device,” the transducer. In the example in note 5, *supra*, the Court explains that a standard trombone  
 could not be a “musical instrument” under the ‘405 Patent because it cannot output an instrument audio signal. If,  
 however, the trombone was coupled with a microphone that could output a signal “representative of the sounds  
 made” by the trombone, the trombone-plus-microphone combination would qualify as a musical instrument.  
 Importantly, in that example, the patent requires that the microphone be considered a part of the musical instrument  
 because it contains the “instrument audio output” for outputting the “instrument audio signal.” *See* ‘405 Patent at cl.  
 1(a).

1 “interface device” from col. 5:15-5:17 in the ‘405 Patent, Gibson’s counsel stated that “what the  
 2 inventors have done is they have used the signal that comes out of the musical instrument and  
 3 that signal is fed into what the patent calls an interface.” Sept. 3 Hearing Tr. at 45:17-45:19. *See*  
 4 *also id.* (stating that “[w]hat the patent describes is using the signal that comes out of the musical  
 5 instrument, putting that into an interface and then that interface affects the way prerecorded  
 6 music is played back.”) (emphasis added). The “interface” Gibson is referring to cannot be the  
 7 same as an “interface device.”

8 In sum, Gibson’s argument that the “interface device” somehow serves to capture a  
 9 whole new class of instrument, is unavailing. The “interface device” described in the  
 10 specification at col. 5:12-5:17 serves neither to narrow nor broaden the scope of the term  
 11 “musical instrument” as construed because, whether or not the instrument uses an interface  
 12 device to assist in producing a signal, it must output the instrument audio signal representative  
 13 of the sounds it made directly.

14 The Court next considers Activision’s proposed construction. Activision asserts that a  
 15 musical instrument under the ‘405 Patent must be a “traditional” musical instrument. The term  
 16 “traditional musical instrument” captures a subset of instruments captured by the Court’s  
 17 construction and thus represents a narrower construction of the term than the Court has provided.  
 18 The word “traditional” appears nowhere in the patent. There is nothing to suggest that this patent  
 19 only covers “traditional” instruments, and not, for example, variants of traditional musical  
 20 instruments or even wholly new musical instruments. Moreover, the Court finds the word  
 21 “traditional” too vague to be useful—an electric guitar is expressly covered by the patent but  
 22 many would not consider it “traditional.” *See, e.g., id.* at col. 1:48-1:49 (“a musical instrument,  
 23 such as an electric guitar”).<sup>13</sup> The Court concludes that so long as the instrument is capable of  
 24 making musical sounds and producing the requisite “instrument audio signal,” it is of no  
 25 consequence to the ‘405 Patent whether the instrument is also “traditional,” in any sense of the  
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27 <sup>13</sup> The Court recognizes that Activision may have intended “traditional” to convey something similar to the Court’s  
 28 construction of musical instrument, but the Court still emphatically rejects the term as excessively narrowing the  
 patent and inviting subjective distinctions. *See* Sept. 3 Hearing Tr. at 8:9-8:16 (advocating that a “traditional”  
 musical instrument is capable of making sounds on its own without additional processing).

1 word.

2 The Court concludes that its construction comports with the definitional statement in the  
3 written description of the '405 Patent and all the claims. The parties' proposals, by contrast,  
4 impose or remove conditions and distort the meaning of the terms provided by the specification.

5  
6 **b. Distinctions of Prior Art**

7 Because a "musical instrument" serves as the "control device" in the simulation claimed  
8 in the '405 Patent, *see* '405 Patent at col. 1:10-1:12 ("this invention pertains to . . . the control of  
9 a simulated concert experience . . . using a musical instrument as the control device"), the Court  
10 now considers how the specification of the '405 Patent distinguishes the "control devices" in the  
11 prior art.

12 The specification distinguishes in some detail the invention from U.S. Pat. No. 5,513,129  
13 ("129 Patent"), which it describes as "system . . . controlled by one or more input devices, such  
14 as a head tracker and manipulator glove." '405 Patent at col. 1:38-1:41. The '405 Patent  
15 criticizes the '129 Patent for its control devices and notes that an advantage of this invention over  
16 the '129 Patent is that it "use[s] a musical instrument as the control device." *Id.* at col. 1:8-1:11.  
17 *See also id.* at 1:45-1:49; *id.* at 1:55-1:56. In doing so, it disavows certain types of devices that  
18 have been used in the '129 Patent and other virtual reality systems.

19 The Court reaches this conclusion only after the careful analysis that follows. It is  
20 mindful that "general statements, without more, will not be interpreted to disclaim every feature  
21 of the prior art." *Ventana Med. Sys. v. Biogenex Labs., Inc.*, 473 F.3d 1173, 1181 (Fed. Cir.  
22 2006) (emphasis added). However, where there is something "more" than general statements,  
23 such as where the "general summary or description of the invention describes a feature of the  
24 invention . . . and criticizes other products . . . that lack that same feature," courts may conclude  
25 the patent makes "a clear disavowal of these other products." *AstraZeneca AB v. Mut. Pharm.*  
26 *Co.*, 384 F.3d 1333, 1339-40 (Fed. Cir. 2004). The statements in the '405 Patent are not  
27 *Ventana's* "general statements by the inventors indicating that the invention is intended to  
28 improve upon prior art," which cannot be read to disclaim features of prior art devices. To the



contrary, the “control device” distinction made in the “Background” section in the ‘405 Patent is specific; it is targeted towards the absence of a particular feature of the prior art, the “actual operation of a musical instrument” as a control device. *See* ‘405 Patent at col. 1:45-1:49. This distinction must be accounted for in claim construction. Accordingly, the construction of “musical instrument” must be sufficiently narrow so as to avoid contradicting the specification’s distinction of the ‘129 Patent and its control devices.

The ‘129 Patent discusses at length different types of control devices that cause another device to produce music. The ‘129 Patent describes, for example, a prior art “virtual drum kit”:

In this system, the user wore a glove and a hand tracker and moved the gloved hand to manipulate virtual objects which were in turn linked to various synthesizer parameters. Thus, by manipulating virtual objects (as taught, for example, by U.S. Pat. 4,988,981, issued Jan. 29, 1991), sounds of different qualities could be created. A skilled user could create modern sounding musical interludes. These ideas have been carried forth by people such as Jaron Lanier who has given a number of public performances in which he manipulates virtual objects to create a musical performance. Research and exploration along these lines is expected to continue (the virtual “air guitar” and the like will probably be developed). In all VR systems of this type, manipulation of a virtual object causes the sound or music to change.

‘129 Patent at 2:50-2:65 (citing ‘981 patent, which is also cited in the ‘405 Patent). *See also id.* at 3:17-3:22 (“[A] VR system has been used as a virtual musical instrument, so that the user must ‘play’ the virtual instrument (by manipulating an input device) to hear anything. This means that the system creates music, and that the system’s musical output is limited by the user’s ability to ‘play’ the ‘instrument.’”); ‘405 Patent at col. 1:20-1:27 (“Typically, a virtual reality system further includes one or more input devices and interface software so that the user of the system can interact with the virtual environment that is being recreated, such as to simulate the user movement in the environment or manipulation of virtual objects reproduced in the virtual environment.”).

The specification expressly criticizes the ‘129 Patent and its control devices because that invention does not allow a musician to control the virtual environment through the “actual operation of a musical instrument such as an electric guitar.” ‘405 Patent at col. 1:45-1:49. *See*

1 *also id.* at col. 1:55-56 (stating that a musician can “control the sound portion of the concert  
2 through operation of the guitar or other instrument.”). It is without question that control by  
3 “actual operation of a musical instrument” is precisely the characteristic the ‘129 Patent and  
4 other virtual reality systems lacked.

5 This is an important distinction that warrants further analysis. In order to control a virtual  
6 instrument with the prior art devices described in the ‘405 Patent, the system necessarily had to  
7 process the input signal heavily to determine what sounds to play. For example, where the user  
8 wore a glove with sensors as the control device, the system had to process the user’s movements  
9 to determine the appropriate response within the virtual reality. *See, e.g.*, ‘129 Patent at col.  
10 8:18-8:32. In the “virtual” instrument context, this was a necessity because the input signal was  
11 not representative of musical sounds. Rather it was representative of the user’s actions, such as  
12 the user’s motion or the forces and torques the user exerted on the device. *See id.*

13 By emphasizing “actual operation of a musical instrument” to control the simulation, the  
14 ‘405 Patent was able to distinguish the prior art because the signal output by the control device  
15 was more than just indicative of the user’s movement. Rather, it was “representative of the  
16 sounds made by the instrument,” ‘405 Patent at col. 5:16-5:17, which enabled the ‘405 Patent to  
17 simulate the musical concert far more easily than the prior art. This view is confirmed by several  
18 statements in the specification that laud the simplicity of the system and the absence of a  
19 computer as principal advantages. *See, e.g.*, ‘405 Patent at col. 1:57-1:60 (explaining that unlike  
20 the ‘129 Patent, the invention “would minimize the use of complex and expensive hardware and  
21 software.”); *id.*, at Col. 1:16-1:20 (describing conventional virtual reality systems as “quite  
22 complex” due to the combination of hardware, software, and peripheral devices); *id.*, at Col.  
23 5:59-5:60 (“One advantage of this system is that no computer is needed to operate or control  
24 it.”).

25 The rest of the patent shores up the foregoing analysis. Figure 2 depicts an interface box  
26 composed of simple analog circuitry, in contrast to a computerized system, that appears to  
27 presume that the input signal is not representative of the user’s motions. Figure 2 and dependent  
28 claim 5 disclose a system that plays back the instrument audio signal directly to the user in

1 bypass mode. *Id.* This would not be possible if the signal were representative only of the user's  
2 "intent."

3 Despite all of this language in the specification, Gibson proposes a definition of "musical  
4 instrument" that captures devices that "indirectly" produce music by outputting a signal  
5 representative of the user's intent. Gibson seeks to include such devices that have an  
6 "appearance that corresponds to a specific type of instrument used in the musical performance."  
7 Under Gibson's definition, a control device of appropriate appearance could be a "musical  
8 instrument" under the '405 Patent, even if it only produces music indirectly by controlling a  
9 virtual reality.

10 The Court finds Gibson's suggested appearance-based constraint<sup>14</sup> insufficient to  
11 overcome the specification's discussion of the '129 patent and its control devices. As a  
12 preliminary matter, the patent says nothing about the appearance of the instrument. Gibson's  
13 appearance-based limitation, however, draws from the "simulation" purpose of the patent, which  
14 is achieved in part by "operation of a musical instrument corresponding to the specific musical  
15 instrument represented by the pre-recorded instrument sound track." '405 Patent at col. 2:15-  
16 2:18. However, it is not enough that the control device simply looks different from the '129  
17 Patent's control devices, as Gibson proposes. The language cited above indicates that it must  
18 actually operate differently, by outputting a signal representative of the sounds actually made by  
19 the instrument and not of the user's motions or intent. Gibson's suggested appearance-based  
20 constraint cannot alter that analysis.<sup>15</sup> Indeed, the substance of the instrument audio signal and  
21 the complexity that it necessitates is entirely unaffected by and unrelated to the appearance of the  
22 input device. It is the functional characteristics of musical instruments in independently making  
23

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24 <sup>14</sup> Indeed, at the hearing, Gibson appeared to recognize how unwarranted an "appearance" distinction is by backing  
25 away somewhat from this extreme position taken in the papers. Sept. 3 Hearing Tr. at 56:16-56:22.

26 <sup>15</sup> With its appearance-based constraint, Gibson imposes a condition that is neither necessary nor sufficient to turn  
27 "devices" into "musical instruments" in order to simulate participation in a concert. Some musical instruments may  
28 appear completely different than the "musical instrument" captured on the instrument track, but may still  
"correspond" if the instrument can be made to sound or otherwise operate precisely like that instrument. There  
seems to be no reason, for example, that a user could not effectively simulate a guitar track by playing a piano. The  
patent confirms the importance of sound to the simulation in stating that the "the level of simulated participation" is  
"enhanc[ed]" if the musician can hear himself playing the instrument in synchronization with the concert video track  
and the left and right concert sound tracks. '405 Patent at col. 2:45-2:50.

1 musical sounds and outputting a signal representative of those sounds that distinguish it from the  
2 prior art input devices that could not do so.

3 In sum, the Court concludes that a musical instrument must be an instrument that  
4 functions as a musical instrument in making musical sounds independent of its function as a  
5 control device of a virtual reality or simulation. The Court thus reaches independently the same  
6 result as the previous section: a device is not separately a musical instrument if it can only make  
7 musical sounds by controlling other devices via its instrument audio signal. It does so here after  
8 an evaluation how the patent explicitly distinguished the prior art.

9 This conclusion is entirely consistent with the remainder of the written description and  
10 the claims. For example, the specification lauds the advantages of the “actual operation” of  
11 “musical instruments” to control such environments because (1) it would be entertaining to  
12 professional and amateur musicians; and (2) it would “assist musical instrument manufacturers in  
13 promoting the sale of their instruments.” ‘405 Patent at col. 1:49-1:60. Each of these statements  
14 squarely aligns with instruments that function as instruments apart from their connection to a  
15 virtual reality device. Finally, it is uncontested here that one feature of the dependent claims is a  
16 “bypass mode” where the audio signal of the musical instrument is connected “directly” to the  
17 mixer so that “the musician can hear himself play.” *Id.* at col. 2:38-2:50. While this alone  
18 cannot settle the issue, it certainly contributes, along with all of the other statements in the  
19 specification, to the Court’s conclusion that a musical instrument operates in making musical  
20 sounds distinct from its purpose as a control device.

### 21 22 **C. Other Issues**

23 The Court now addresses the other limitations that Activision seeks to impose on the two  
24 terms. Activision would require that “instrument audio signals” are “audible” signals, which, by  
25 definition, are analog and constrained to frequencies that can be heard. Activision uses the term  
26 “audible” signals in contrast to digital signals, which necessarily require additional electronic  
27 processing before producing sounds. *See* Activision Claim Constr. Br., at 17.

28 The Court finds some merit in Activision’s arguments based (1) on dictionary definitions

1 of “audio signal” as “any signal within the audio frequency range,” *id.* at 15; (2) the repeated use  
 2 of electric and amplified acoustic guitars as examples, both of which output audible signals; (3)  
 3 Figure 2 in the specification, which depicts analog circuitry; (4) statements in the specification  
 4 that laud the advantage of not needing a computer to operate the simulation, *see, e.g.*, ‘405  
 5 Patent at col. 5:59-5:60 (“One advantage of this system is that no computer is needed to operate  
 6 or control it.”); (5) a reference in describing a preferred embodiment to “amplif[ying]” an audio  
 7 signal; and (6) the optional “bypass” mode, described in claim 5, which appears to require an  
 8 audible signal in order to function, *see, e.g., id.* at cl. 5 (“the user can listen to the instrument  
 9 audio signal”).

10 The Court, however, declines to limit the instrument audio signal and the patent in the  
 11 way Activision proposes. Thus, the Court finds it sufficient that the signal is representative of  
 12 the sounds made (*i.e.*, representative of the [analog] sound waves), regardless of whether the  
 13 representation is analog or digital. In essence, it is the substance of the signal that is important in  
 14 contrast to its form, and the Court’s construction and discussion in the previous sections  
 15 describes what is required of the “instrument audio signal.” A musical instrument could directly  
 16 produce analog sound waves and output a digital representation of those sounds.

17 The Court sees no reason, at this time, to exclude a musical instrument that falls into that  
 18 class. The arguments referenced above describe analog or audible signals or the advantages  
 19 thereof, but they do not limit the instrument audio signal to analog form. For instance, it does  
 20 not seem appropriate to exclude digital signals from “audio signal” because the definition of  
 21 “audio signal” appears to vary.<sup>16</sup> No differently, that a musical instrument may have “one or  
 22 more pick-ups or other transducers that will generate electrical audio signals . . . at an instrument  
 23 audio output” is unhelpful. ‘405 Patent at col. 2:64-2:67. A transducer (“[a] . . . device . . . that  
 24 converts input energy of one form into output energy of another”) could be a device that converts  
 25 analog sound waves into a digital signal. AMERICAN HERITAGE DICTIONARY OF THE ENGLISH  
 26

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27  
 28 <sup>16</sup> *See, e.g.*, ‘129 Patent at col. 7:53-7:56 (“The term ‘audio signal’ is used herein in a broad sense to include not only sound waves but also electrical, optical, or other signals representing sound waves (such as the electrical output of a transducer in response to sound waves.)”).

1 LANGUAGE (4th ed. 2000). Thus, contrary to Activision’s suggestion at the hearing, the use of a  
2 “transducer” does not foreclose the possibility that the instrument audio signal is digital: a  
3 musical instrument could output analog sound waves while a transducer on the instrument  
4 converts the analog signal into a digital instrument audio signal at the instrument’s output. This  
5 is the situation the “directly or indirectly through the use of an interface device,” explained  
6 above, covers.

7 In addition, unlike the clear disavowal of scope described with respect to the control  
8 devices, there is no such disclaimer of the prior art that focuses on the form of the instrument  
9 audio signal. General statements about the advantage of not requiring a computer (or other  
10 necessarily “complex” systems) cannot be read as a disavowal of systems that utilize a digital  
11 signal or a computer.<sup>17</sup> *Ventana Med. Sys.*, 473 F.3d at 1181 (explaining that “general  
12 statements, without more, will not be interpreted to disclaim every feature of every prior art”  
13 described in the background of the invention). Instead, these statements simply explain one way  
14 that the ‘405 Patent attempts to improve on the state of the art: embodiments of the Patent might  
15 “[p]referably . . . minimize the use of complex and expensive hardware and software”—not  
16 eliminate it. ‘405 Patent at col. 1:57-1:60 (emphasis added). This is precisely the situation the  
17 *Ventana* Court addressed. 473 F.3d at 1181 (admonishing courts not to over-read “general  
18 statements by the inventors indicating that the invention is intended to improve upon prior art.”)

19 Activision has presented further one argument that merits brief consideration. It argues  
20 that by citing U.S. Patent No. 5,393,926 (“‘926 Patent” or “Johnson Patent”), Gibson necessarily  
21 limited “musical instrument” to devices that do not produce digital signals or require a computer  
22 to interpret the signals. The ‘926 Patent, in relevant part, states that its control device, a MIDI  
23 guitar, “generates a serial stream of data that identifies what string was struck and with what  
24 force.” ‘926 Patent, at Col. 5:13-5:15. That system required the use of a computer to interpret  
25 the “serial stream of data,” which is a digital signal.

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26  
27 <sup>17</sup> The Court does not purport to define or limit what constitutes a “computer”; it concludes only that the ‘405 Patent  
28 does not preclude the use of a computer or other electronics if necessary to process a digital signal. That conclusion,  
however, does not broaden the definition of “musical instrument” because it still must possess the two capabilities  
described above.

1 The Court finds it unnecessary to narrow its construction to exclude systems using  
2 computers or digital signals on the basis of this reference alone. The Court's constructions  
3 already draw a line between the '405 Patent and the '926 Patent because its '405 constructions  
4 exclude instruments where the audio signal can be decoupled from the musical sounds—if  
5 any<sup>18</sup>—made by the instrument. The '926 Patent appears to have no such limitation.


6  
7 **IV.**

8 **CONCLUSION**

9 The Court thus adopts the foregoing constructions of the two claim terms of the '405  
10 Patent at issue.

11  
12 **IT IS SO ORDERED.**

13  
14 **DATED: September 16, 2008**

15   
16 \_\_\_\_\_  
17 Hon. Mariana R. Pfaelzer  
18 United States District Judge  
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28 <sup>18</sup> Indeed, the claims of the '926 Patent speak only of “virtual musical instruments” and nowhere appears to  
contemplate that the virtual musical instrument make any sounds itself. '926 Patent at cols. 10-12 (emphasis added).





LEXSEE 550 U.S. 398

**KSR INTERNATIONAL CO., Petitioner v. TELEFLEX INC. et al.****No. 04-1350****SUPREME COURT OF THE UNITED STATES**

**550 U.S. 398; 127 S. Ct. 1727; 167 L. Ed. 2d 705; 2007 U.S. LEXIS 4745; 75 U.S.L.W.  
4289; 82 U.S.P.Q.2D (BNA) 1385; 20 Fla. L. Weekly Fed. S 248**

**November 28, 2006, Argued  
April 30, 2007, Decided**

**SUBSEQUENT HISTORY:**

On remand at *Teleflex, Inc. v. KSR Int'l Co.*, 228 Fed. Appx. 988, 2007 U.S. App. LEXIS 16051 (Fed. Cir., June 20, 2007)

**PRIOR HISTORY:** ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT.

*Teleflex, Inc. v. KSR Int'l Co.*, 119 Fed. Appx. 282, 2005 U.S. App. LEXIS 176 (Fed. Cir., 2005)

**DISPOSITION:** Reversed and remanded.

**DECISION:**

[\*\*\*705] Company that added modular sensor to its automobile-accelerator-pedal system held entitled to summary judgment in infringement action by holder of license for patent covering assembly with electronic sensor, as pertinent claim was "obvious" within meaning of 35 U.S.C.S. § 103.

**SUMMARY:**

**Procedural posture:** Respondent, licensees of a patent, alleged that petitioner, a competitor, infringed the licensees' patent for an accelerator pedal assembly for vehicles, but the competitor asserted that the patent claim in dispute was invalid as obvious under 35 U.S.C.S. § 103. Upon the grant of a writ of certiorari, the competitor appealed the judgment of the U.S. Court of Appeals for the Federal Circuit which reversed a summary judgment

of patent invalidity.

**Overview:** To satisfy customer needs, the competitor modified its design for an adjustable pedal system for vehicles with cable-actuated throttles by adding a modular sensor to make the system compatible with vehicles using computer-controlled throttles. The licensees contended that the competitor infringed the patent claim of a position-adjustable pedal assembly with an electronic pedal position sensor attached a fixed pivot point. The U.S. Supreme Court unanimously held that the patent claim was invalid as obvious since mounting an available sensor on a fixed pivot point of the competitor's pedal was a design step well within the grasp of a person of ordinary skill in the relevant art, and the benefit of doing so was obvious. The marketplace created a strong incentive to convert mechanical pedals to electronic pedals, and the prior art taught a number of methods for doing so. Further, the problem to be solved by the patent claim did not limit its application as prior art, the competitor's showing that it was obvious to try a combination of elements [\*\*\*706] sufficiently supported the finding of obviousness, and the claim was the result of ordinary skill and common sense rather than innovation.

**Outcome:** The judgment reversing the summary judgment of invalidity was reversed, and the case was remanded for further proceedings.

**LAWYERS' EDITION HEADNOTES:**

[\*\*\*LEdHN1]

# PATENTS § 19.1

## PATENTABILITY -- OBVIOUSNESS OF SUBJECT MATTER

Headnote:[1]

35 U.S.C.S. § 103 forbids issuance of a patent when the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

[\*\*\*LEdHN2]

## PATENTS § 19 PATENTS § 19.1

## PATENTABILITY -- MECHANICAL SKILL -- OBVIOUSNESS OF SUBJECT MATTER

Headnote:[2]

Under 35 U.S.C.S. § 103, the scope and content of prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. While the sequence of these questions might be reordered in any particular case, the factors continue to define the inquiry that controls. If a court, or patent examiner, conducts this analysis and concludes the claimed subject matter was obvious, the claim is invalid under § 103.

[\*\*\*LEdHN3]

## EVIDENCE § 333

## PATENT -- PRESUMPTION OF VALIDITY

Headnote:[3]

By direction of 35 U.S.C.S. § 282, an issued patent is presumed valid.

[\*\*\*LEdHN4]

## PATENTS § 37

## PATENTABILITY -- COMBINATION OF OLD ELEMENTS

Headnote:[4]

A patent for a combination which only unites old elements with no change in their respective functions obviously withdraws what is already known into the field of its monopoly and diminishes the resources available to skillful men. This is a principal reason for declining to allow patents for what is obvious. The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.

[\*\*\*LEdHN5]

## PATENTS § 50

## PATENTABILITY -- OBVIOUSNESS OF IMPROVEMENT

Headnote:[5]

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, 35 U.S.C.S. § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill. A court must ask whether the [\*\*\*707] improvement is more than the predictable use of prior art elements according to their established functions.

[\*\*\*LEdHN6]

## PATENTS § 19.1

## PATENTABILITY -- OBVIOUSNESS OF SUBJECT MATTER

Headnote:[6]

Rejection of a patent on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support a legal conclusion of obviousness. However, the analysis need not seek out

precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.

[\*\*\*LEdHN7]

#### PATENTS § 19.1

#### PATENTABILITY -- COMPOSITION OF ELEMENTS -- OBVIOUSNESS

Headnote:[7]

A patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. Although common sense directs one to look with care at a patent application that claims as innovation the combination of two known devices according to their established functions, it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does. This is so because inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known.

[\*\*\*LEdHN8]

#### PATENTS § 19.1

#### PATENTABILITY -- OBVIOUSNESS OF TECHNIQUES OR COMBINATIONS -- SCIENTIFIC LITERATURE

Headnote:[8]

The obviousness analysis in the patent context cannot be confined by a formalistic conception of the words teaching, suggestion, and motivation, or by overemphasis on the importance of published articles and the explicit content of issued patents. The diversity of inventive pursuits and of modern technology counsels against limiting the analysis in this way. In many fields it may be that there is little discussion of obvious techniques or combinations, and it often may be the case that market demand, rather than scientific literature, will drive design trends. Granting patent protection to advances that would occur in the ordinary course without real innovation retards progress and may, in the case of

patents combining previously known elements, deprive prior inventions of their value or utility.

[\*\*\*LEdHN9]

#### PATENTS § 19.1

#### PATENTABILITY -- SUBJECT MATTER -- DETERMINATION WHETHER OBVIOUS

Headnote:[9]

In determining whether the subject matter of a patent claim is obvious, neither the particular motivation nor the avowed purpose of the patentee controls. What matters is the objective reach of the claim. If the claim extends to what is obvious, it is invalid under 35 U.S.C.S. § 103. One of the ways in which a patent's subject matter can be proved obvious is by noting that there existed at the time of invention a known problem for which there was an obvious solution encompassed by the patent's claims.

[\*\*\*LEdHN10]

#### PATENTS § 19.1

#### PATENTABILITY -- OBVIOUSNESS

Headnote:[10]

A problem motivating a patentee may be only one of many addressed by the patent's subject matter. The question is not whether the combination was obvious to the patentee [\*\*\*708] but whether the combination was obvious to a person with ordinary skill in the art.

[\*\*\*LEdHN11]

#### PATENTS § 19 PATENTS § 19.1

#### PATENTABILITY -- ORDINARY SKILL -- OBVIOUSNESS

Headnote:[11]

When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. In that instance the fact that a combination was obvious to try might show that it

was obvious under 35 U.S.C.S. § 103.

[\*\*\*LEdHN12]

PATENTS § 19.1

PATENTABILITY -- OBVIOUSNESS

Headnote:[12]

In a patent obviousness case, a factfinder must be aware of the distortion caused by hindsight bias and must be cautious of arguments reliant upon ex post reasoning. Rigid preventative rules that deny factfinders recourse to common sense, however, are neither necessary under U.S. Supreme Court case law nor consistent with it.

[\*\*\*LEdHN13]

SUMMARY JUDGMENT AND JUDGMENT ON PLEADINGS § 5

PATENTABILITY -- OBVIOUSNESS OF CLAIM -- SUMMARY JUDGMENT

Headnote:[13]

In considering summary judgment on a question of patent obviousness, a district court can and should take into account expert testimony, which may resolve or keep open certain questions of fact. That is not the end of the issue, however. The ultimate judgment of obviousness is a legal determination. Where the content of the prior art, the scope of the patent claim, and the level of ordinary skill in the art are not in material dispute, and the obviousness of the claim is apparent in light of these factors, summary judgment is appropriate.

[\*\*\*LEdHN14]

PATENTS § 17 PATENTS § 19.1

PATENTABILITY -- ORDINARY INNOVATION -- OBVIOUS SUBJECT MATTER

Headnote:[14]

As progress beginning from higher levels of achievement is expected in the normal course, the results of ordinary innovation are not the subject of exclusive rights under the patent laws. Were it otherwise patents might stifle, rather than promote, the progress of useful arts. U.S. Const. art. I, § 8, cl. 8. These premises lead to

the bar on patents claiming obvious subject matter established by case law and codified in 35 U.S.C.S. § 103. Application of the bar must not be confined within a test or formulation too constrained to serve its purpose.

## SYLLABUS

[\*\*\*709] To control a conventional automobile's speed, the driver depresses or releases the gas pedal, which interacts with the throttle via a cable or other mechanical link. Because the pedal's position in the footwell normally cannot be adjusted, a driver wishing to be closer or farther from it must either reposition himself in the seat or move the seat, both of which can be imperfect solutions for smaller drivers in cars with deep footwells. This prompted inventors to design and patent pedals that could be adjusted to change their locations. The Asano patent reveals a support structure whereby, when the pedal location is adjusted, one of the pedal's pivot points stays fixed. Asano is also designed so that the force necessary to depress the pedal is the same regardless of location adjustments. The Redding patent reveals a different, sliding mechanism where both the pedal and the pivot point are adjusted.

In newer cars, computer-controlled throttles do not operate through force transferred from the pedal by a mechanical link, but open and close valves in response to electronic signals. For the computer to know what is happening with the pedal, an electronic sensor must translate the mechanical operation into digital data. Inventors had obtained a number of patents for such sensors. The so-called '936 patent taught that it was preferable to detect the pedal's position in the pedal mechanism, not in the engine, so the patent disclosed a pedal with an electronic sensor on a pivot point in the pedal assembly. The Smith patent taught that to prevent the wires connecting the sensor to the computer from chafing and wearing out, the sensor should be put on a fixed part of the pedal assembly rather than in or on the pedal's footpad. Inventors had also patented self-contained modular sensors, which can be taken off the shelf and attached to any mechanical pedal to allow it to function with a computer-controlled throttle. The '068 patent disclosed one such sensor. Chevrolet also manufactured trucks using modular sensors attached to the pedal support bracket, adjacent to the pedal and engaged [\*\*\*710] with the pivot shaft about which the pedal rotates. Other patents disclose electronic sensors attached to adjustable pedal assemblies. For example, the

Rixon patent locates the sensor in the pedal footpad, but is known for wire chafing.

After petitioner KSR developed an adjustable pedal system for cars with cable-actuated throttles and obtained its '986 patent for the design, General Motors Corporation (GMC) chose KSR to supply adjustable pedal systems for trucks using computer-controlled throttles. To make the '986 pedal compatible with the trucks, KSR added a modular sensor to its design. Respondents (Teleflex) hold the exclusive license for the Engelgau patent, claim 4 of which discloses a position-adjustable pedal assembly with an electronic pedal position sensor attached to a fixed pivot point. Despite having denied a similar, broader claim, the U. S. Patent and Trademark Office (PTO) had allowed claim 4 because it included the limitation of a fixed pivot position, which distinguished the design from Redding's. Asano was neither included among the Engelgau patent's prior art references nor mentioned in the patent's prosecution, and the PTO did not have before it an adjustable pedal with a fixed pivot point. After learning of KSR's design for GMC, Teleflex sued for infringement, asserting that KSR's pedal system infringed the Engelgau patent's claim 4. KSR countered that claim 4 was invalid under § 103 of the Patent Act, which forbids issuance of a patent when "the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art."

*Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17-18, 86 S. Ct. 684, 15 L. Ed. 2d 545, set out an objective analysis for applying § 103: "[T]he scope and content of the prior art are . . . determined; differences between the prior art and the claims at issue are . . . ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented." While the sequence of these questions might be reordered in any particular case, the factors define the controlling inquiry. However, seeking to resolve the obviousness question with more uniformity and consistency, the Federal Circuit has employed a "teaching, suggestion, or motivation" (TSM) test, under which a patent claim is only proved obvious if the prior art, the problem's nature, or the

knowledge of a person having ordinary skill in the art reveals some motivation or suggestion to combine the prior art teachings.

The District Court granted KSR summary judgment. After reviewing pedal design history, the Engelgau patent's scope, and the relevant prior art, the court considered claim 4's validity, applying *Graham's* framework to determine whether under summary-judgment standards KSR had demonstrated that claim 4 was obvious. The court found "little difference" between the prior art's teachings and claim 4: Asano taught everything contained in the claim except [\*\*\*711] using a sensor to detect the pedal's position and transmit it to a computer controlling the throttle. That additional aspect was revealed in, *e.g.*, the '068 patent and Chevrolet's sensors. The court then held that KSR satisfied the TSM test, reasoning (1) the state of the industry would lead inevitably to combinations of electronic sensors and adjustable pedals, (2) Rixon provided the basis for these developments, and (3) Smith taught a solution to Rixon's chafing problems by positioning the sensor on the pedal's fixed structure, which could lead to the combination of a pedal like Asano with a pedal position sensor.

Reversing, the Federal Circuit ruled the District Court had not applied the TSM test strictly enough, having failed to make findings as to the specific understanding or principle within a skilled artisan's knowledge that would have motivated one with no knowledge of the invention to attach an electronic control to the Asano assembly's support bracket. The Court of Appeals held that the District Court's recourse to the nature of the problem to be solved was insufficient because, unless the prior art references addressed the precise problem that the patentee was trying to solve, the problem would not motivate an inventor to look at those references. The appeals court found that the Asano pedal was designed to ensure that the force required to depress the pedal is the same no matter how the pedal is adjusted, whereas Engelgau sought to provide a simpler, smaller, cheaper adjustable electronic pedal. The Rixon pedal, said the court, suffered from chafing but was not designed to solve that problem and taught nothing helpful to Engelgau's purpose. Smith, in turn, did not relate to adjustable pedals and did not necessarily go to the issue of motivation to attach the electronic control on the pedal assembly's support bracket. So interpreted, the court held, the patents would not have led a person of ordinary skill

to put a sensor on an Asano-like pedal. That it might have been obvious to try that combination was likewise irrelevant. Finally, the court held that genuine issues of material fact precluded summary judgment.

*Held:*

The Federal Circuit addressed the obviousness question in a narrow, rigid manner that is inconsistent with § 103 and this Court's precedents. KSR provided convincing evidence that mounting an available sensor on a fixed pivot point of the Asano pedal was a design step well within the grasp of a person of ordinary skill in the relevant art and that the benefit of doing so would be obvious. Its arguments, and the record, demonstrate that the Engelgau patent's claim 4 is obvious. Pp. 11-24.

1. *Graham* provided an expansive and flexible approach to the obviousness question that is inconsistent with the way the Federal Circuit applied its TSM test here. Neither § 103's enactment nor *Graham*'s analysis disturbed the Court's earlier instructions concerning the need for caution in granting a patent based on the combination of elements found in the prior art. See *Great Atlantic & Pacific Tea Co. v. Supermarket Equipment Corp.*, 340 U.S. 147, 152, 71 S. Ct. 127, 95 L. Ed. 162, 1951 Dec. Comm'r Pat. 572 Such a combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results. See, e.g., *United States v. Adams*, 383 U.S. 39, 50-52, 86 S. Ct. 708, 15 L. Ed. 2d 572, 174 Ct. Cl. 1293 When a work is available in one field, design incentives and other market forces [\*\*\*712] can prompt variations of it, either in the same field or in another. If a person of ordinary skill in the art can implement a predictable variation, and would see the benefit of doing so, § 103 likely bars its patentability. Moreover, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond that person's skill. A court must ask whether the improvement is more than the predictable use of prior art elements according to their established functions. Following these principles may be difficult if the claimed subject matter involves more than the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement. To determine whether there was an apparent reason to combine the known elements in the

way a patent claims, it will often be necessary to look to interrelated teachings of multiple patents; to the effects of demands known to the design community or present in the marketplace; and to the background knowledge possessed by a person having ordinary skill in the art. To facilitate review, this analysis should be made explicit. But it need not seek out precise teachings directed to the challenged claim's specific subject matter, for a court can consider the inferences and creative steps a person of ordinary skill in the art would employ. Pp. 11-14.

(b) The TSM test captures a helpful insight: A patent composed of several elements is not proved obvious merely by demonstrating that each element was, independently, known in the prior art. Although common sense directs caution as to a patent application claiming as innovation the combination of two known devices according to their established functions, it can be important to identify a reason that would have prompted a person of ordinary skill in the art to combine the elements as the new invention does. Inventions usually rely upon building blocks long since uncovered, and claimed discoveries almost necessarily will be combinations of what, in some sense, is already known. Helpful insights, however, need not become rigid and mandatory formulas. If it is so applied, the TSM test is incompatible with this Court's precedents. The diversity of inventive pursuits and of modern technology counsels against confining the obviousness analysis by a formalistic conception of the words teaching, suggestion, and motivation, or by overemphasizing the importance of published articles and the explicit content of issued patents. In many fields there may be little discussion of obvious techniques or combinations, and market demand, rather than scientific literature, may often drive design trends. Granting patent protection to advances that would occur in the ordinary course without real innovation retards progress and may, for patents combining previously known elements, deprive prior inventions of their value or utility. Since the TSM test was devised, the Federal Circuit doubtless has applied it in accord with these principles in many cases. There is no necessary inconsistency between the test and the *Graham* analysis. But a court errs where, as here, it transforms general principle into a rigid rule limiting the obviousness inquiry. Pp. 14-15.

(c) The flaws in the Federal Circuit's analysis relate mostly to its [\*\*\*713] narrow conception of the obviousness inquiry consequent in its application of the

TSM test. The Circuit first erred in holding that courts and patent examiners should look only to the problem the patentee was trying to solve. Under the correct analysis, any need or problem known in the field and addressed by the patent can provide a reason for combining the elements in the manner claimed. Second, the appeals court erred in assuming that a person of ordinary skill in the art attempting to solve a problem will be led only to those prior art elements designed to solve the same problem. The court wrongly concluded that because Asano's primary purpose was solving the constant ratio problem, an inventor considering how to put a sensor on an adjustable pedal would have no reason to consider putting it on the Asano pedal. It is common sense that familiar items may have obvious uses beyond their primary purposes, and a person of ordinary skill often will be able to fit the teachings of multiple patents together like pieces of a puzzle. Regardless of Asano's primary purpose, it provided an obvious example of an adjustable pedal with a fixed pivot point, and the prior art was replete with patents indicating that such a point was an ideal mount for a sensor. Third, the court erred in concluding that a patent claim cannot be proved obvious merely by showing that the combination of elements was obvious to try. When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill in the art has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. Finally, the court drew the wrong conclusion from the risk of courts and patent examiners falling prey to hindsight bias. Rigid preventative rules that deny recourse to common sense are neither necessary under, nor consistent with, this Court's case law. Pp. 15-18.

2. Application of the foregoing standards demonstrates that claim 4 is obvious. Pp. 18-23.

(a) The Court rejects Teleflex's argument that the Asano pivot mechanism's design prevents its combination with a sensor in the manner claim 4 describes. This argument was not raised before the District Court, and it is unclear whether it was raised before the Federal Circuit. Given the significance of the District Court's finding that combining Asano with a pivot-mounted pedal position sensor fell within claim 4's scope, it is apparent that Teleflex would have made clearer challenges if it intended to preserve this claim. Its failure

to clearly raise the argument, and the appeals court's silence on the issue, lead this Court to accept the District Court's conclusion. Pp. 18-20.

(b) The District Court correctly concluded that when Engelgau designed the claim 4 subject matter, it was obvious to a person of ordinary skill in the art to combine Asano with a pivot-mounted pedal position sensor. There then was a marketplace creating a strong incentive to convert mechanical pedals to electronic pedals, and the prior art taught a number of methods for doing so. The Federal Circuit considered the issue too narrowly by, in effect, asking whether a pedal designer writing on a blank slate would have chosen both Asano and a modular sensor similar to the ones used in the Chevrolet trucks and [\*\*\*714] disclosed in the '068 patent. The proper question was whether a pedal designer of ordinary skill in the art, facing the wide range of needs created by developments in the field, would have seen an obvious benefit to upgrading Asano with a sensor. For such a designer starting with Asano, the question was where to attach the sensor. The '936 patent taught the utility of putting the sensor on the pedal device. Smith, in turn, explained not to put the sensor on the pedal footpad, but instead on the structure. And from Rixon's known wire-chafing problems, and Smith's teaching that the pedal assemblies must not precipitate any motion in the connecting wires, the designer would know to place the sensor on a nonmoving part of the pedal structure. The most obvious such point is a pivot point. The designer, accordingly, would follow Smith in mounting the sensor there. Just as it was possible to begin with the objective to upgrade Asano to work with a computer-controlled throttle, so too was it possible to take an adjustable electronic pedal like Rixon and seek an improvement that would avoid the wire-chafing problem. Teleflex has not shown anything in the prior art that taught away from the use of Asano, nor any secondary factors to dislodge the determination that claim 4 is obvious. Pp. 20-23.

3. The Court disagrees with the Federal Circuit's holding that genuine issues of material fact precluded summary judgment. The ultimate judgment of obviousness is a legal determination. *Graham*, 383 U.S., at 17, 86 S. Ct. 684, 15 L. Ed. 2d 545. Where, as here, the prior art's content, the patent claim's scope, and the level of ordinary skill in the art are not in material dispute and the claim's obviousness is apparent, summary judgment is appropriate. P. 23.



550 U.S. 398, \*; 127 S. Ct. 1727, \*\*;  
167 L. Ed. 2d 705, \*\*\*714; 2007 U.S. LEXIS 4745

119 Fed. Appx. 282, reversed and remanded.

**COUNSEL:** **James W. Dabney** argued the cause for petitioner.

**Thomas G. Hungar** argued the cause for the United States, as amicus curiae, by special leave of court.

**Thomas C. Goldstein** argued the cause for respondents.

**JUDGES:** Kennedy, J., delivered the opinion for a unanimous Court.

**OPINION BY: KENNEDY**

## OPINION

[\*405] [\*\*1734] Justice **Kennedy** delivered the opinion of the Court.

Teleflex Incorporated and its subsidiary Technology Holding Company--both referred to here as Teleflex--sued KSR International Company for patent infringement. The patent at issue, United States Patent No. 6,237,565 B1, is entitled "Adjustable [\*406] Pedal Assembly With Electronic Throttle Control." Supp. App. 1. The patentee is Steven J. Engelgau, and the patent is referred to as "the Engelgau patent." Teleflex holds the exclusive license to the patent.

Claim 4 of the Engelgau patent describes a mechanism for combining an electronic sensor with an adjustable automobile pedal so the pedal's position can be transmitted to a computer that controls the throttle in the vehicle's engine. When Teleflex accused KSR of infringing the Engelgau patent by adding an electronic sensor to one of KSR's previously designed pedals, KSR countered that claim 4 was invalid under the Patent Act, 35 U.S.C. § 103 (2000ed. and Supp. IV), because its subject matter was obvious.

[\*\*\*LEdHR1] [1]Section 103(a) forbids issuance of a patent when "the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having [\*\*\*715] ordinary skill in the art to which said subject matter pertains."

In *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 86 S. Ct. 684, 15 L. Ed. 2d 545 (1966), the Court

set out a framework for applying the statutory language of § 103, language itself based on the logic of the earlier decision in *Hotchkiss v. Greenwood*, 52 U.S. 248, 11 How. 248, 13 L. Ed. 683 (1851), and its progeny. See 383 U.S., at 15-17, 86 S. Ct. 684, 15 L. Ed. 2d 545. The analysis is objective:

[\*\*\*LEdHR2] [2]"Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented." *Id.*, at 17-18, 86 S. Ct. 684, 15 L. Ed. 2d 545.

[\*407] While the sequence of these questions might be reordered in any particular case, the factors continue to define the inquiry that controls. If a court, or patent examiner, conducts this analysis and concludes the claimed subject matter was obvious, the claim is invalid under § 103.

Seeking to resolve the question of obviousness with more uniformity and consistency, the Court of Appeals for the Federal Circuit has employed an approach referred to by the parties as the "teaching, suggestion, or motivation" test (TSM test), under which a patent claim is only proved obvious if "some motivation or suggestion to combine the prior art teachings" can be found in the prior art, the nature of the problem, or the knowledge of a person having ordinary skill in the art. See, e.g., *Al-Site Corp. v. VSI Int'l, Inc.*, 174 F.3d 1308, 1323-1324 (CA Fed. 1999). KSR challenges that [\*\*1735] test, or at least its application in this case. See 119 Fed. Appx. 282, 286-290 (CA Fed. 2005). Because the Court of Appeals addressed the question of obviousness in a manner contrary to § 103 and our precedents, we granted certiorari, 548 U.S. 902, 126 S. Ct. 2965, 165 L. Ed. 2d 949 (2006). We now reverse.

I

A

In car engines without computer-controlled throttles, the accelerator pedal interacts with the throttle via cable or other mechanical link. The pedal arm acts as a lever rotating around a pivot point. In a cable-actuated throttle control the rotation caused by pushing down the pedal pulls a cable, which in turn pulls open valves in the carburetor or fuel injection unit. The wider the valves open, the more fuel and air are released, causing combustion to increase and the car to accelerate. When the driver takes his foot off the pedal, the opposite occurs as the cable is released and the valves slide closed.

In the 1990's it became more common to install computers in cars to control engine operation. Computer-controlled [\*408] throttles open and close valves in response to electronic signals, not through force transferred from the pedal by a mechanical link. Constant, delicate adjustments of air and fuel mixture are possible. The computer's rapid processing of factors beyond the pedal's position improves [\*\*\*716] fuel efficiency and engine performance.

For a computer-controlled throttle to respond to a driver's operation of the car, the computer must know what is happening with the pedal. A cable or mechanical link does not suffice for this purpose; at some point, an electronic sensor is necessary to translate the mechanical operation into digital data the computer can understand.

Before discussing sensors further we turn to the mechanical design of the pedal itself. In the traditional design a pedal can be pushed down or released but cannot have its position in the footwell adjusted by sliding the pedal forward or back. As a result, a driver who wishes to be closer or farther from the pedal must either reposition himself in the driver's seat or move the seat in some way. In cars with deep footwells these are imperfect solutions for drivers of smaller stature. To solve the problem, inventors, beginning in the 1970's, designed pedals that could be adjusted to change their location in the footwell. Important for this case are two adjustable pedals disclosed in U.S. Patent Nos. 5,010,782 (filed July 28, 1989) (Asano) and 5,460,061 (filed Sept. 17, 1993) (Redding). The Asano patent reveals a support structure that houses the pedal so that even when the pedal location is adjusted relative to the driver, one of the pedal's pivot points stays fixed. The pedal is also designed so that the

force necessary to push the pedal down is the same regardless of adjustments to its location. The Redding patent reveals a different, sliding mechanism where both the pedal and the pivot point are adjusted.

We return to sensors. Well before Engelgau applied for his challenged patent, some inventors had obtained patents involving electronic pedal sensors for computer-controlled [\*409] throttles. These inventions, such as the device disclosed in U.S. Patent No. 5,241,936 (filed Sept. 9, 1991) ('936), taught that it was preferable to detect the pedal's position in the pedal assembly, not in the engine. The '936 patent disclosed a pedal with an electronic sensor on a pivot point in the pedal assembly. U.S. Patent No. 5,063,811 (filed July 9, 1990) (Smith) taught that to prevent the [\*\*\*1736] wires connecting the sensor to the computer from chafing and wearing out, and to avoid grime and damage from the driver's foot, the sensor should be put on a fixed part of the pedal assembly rather than in or on the pedal's footpad.

In addition to patents for pedals with integrated sensors inventors obtained patents for self-contained modular sensors. A modular sensor is designed independently of a given pedal so that it can be taken off the shelf and attached to mechanical pedals of various sorts, enabling the pedals to be used in automobiles with computer-controlled throttles. One such sensor was disclosed in U.S. Patent No. 5,385,068 (filed Dec. 18, 1992) ('068). In 1994, Chevrolet manufactured a line of trucks using modular sensors "attached to the pedal assembly support bracket, adjacent to the pedal and engaged with the pivot shaft about which the pedal rotates in operation." 298 F. Supp. 2d 581, 589 (ED Mich. 2003).

The prior art contained patents involving the placement of sensors on adjustable pedals as well. For example, U.S. Patent No. 5,819,593 (filed Aug. 17, 1995) (Rixon) discloses an adjustable pedal assembly with an [\*\*\*717] electronic sensor for detecting the pedal's position. In the Rixon pedal the sensor is located in the pedal footpad. The Rixon pedal was known to suffer from wire chafing when the pedal was depressed and released.

This short account of pedal and sensor technology leads to the instant case.

B

KSR, a Canadian company, manufactures and

550 U.S. 398, \*409; 127 S. Ct. 1727, \*\*1736;  
167 L. Ed. 2d 705, \*\*\*717; 2007 U.S. LEXIS 4745

supplies auto parts, including pedal systems. Ford Motor Company hired [\*410] KSR in 1998 to supply an adjustable pedal system for various lines of automobiles with cable-actuated throttle controls. KSR developed an adjustable mechanical pedal for Ford and obtained U.S. Patent No. 6,151,986 (filed July 16, 1999) ('986) for the design. In 2000, KSR was chosen by General Motors Corporation (GMC or GM) to supply adjustable pedal systems for Chevrolet and GMC light trucks that used engines with computer-controlled throttles. To make the '986 pedal compatible with the trucks, KSR merely took that design and added a modular sensor.

Teleflex is a rival to KSR in the design and manufacture of adjustable pedals. As noted, it is the exclusive licensee of the Engelgau patent. Engelgau filed the patent application on August 22, 2000, as a continuation of a previous application for U.S. Patent No. 6,109,241, which was filed on January 26, 1999. He has sworn he invented the patent's subject matter on February 14, 1998. The Engelgau patent discloses an adjustable electronic pedal described in the specification as a "simplified vehicle control pedal assembly that is less expensive, and which uses fewer parts and is easier to package within the vehicle." Engelgau, col. 2, ll. 2-5, Supp. App. 6. Claim 4 of the patent, at issue here, describes:

"A vehicle control pedal apparatus comprising:

"a support adapted to be mounted to a vehicle structure;

"an adjustable pedal assembly having a pedal arm moveable in fore and aft directions with respect to said support;

"a pivot for pivotally supporting said adjustable pedal assembly with respect to said support and defining a pivot axis; and

"an electronic control attached to said support for controlling a vehicle system;

"said apparatus characterized by said electronic control being responsive to said pivot for providing a signal that corresponds to pedal arm position as said pedal arm pivots [\*411] about said pivot [\*1737] axis between rest and applied

positions wherein the position of said pivot remains constant while said pedal arm moves in fore and aft directions with respect to said pivot." *Id.*, col. 6, ll. 17-36, Supp. App. 8 (diagram numbers omitted).

We agree with the District Court that the claim discloses "a position-adjustable pedal assembly with an electronic pedal position sensor attached to the support member of the pedal assembly. Attaching the sensor to the support member allows the sensor to remain in a fixed position while the driver adjusts the pedal." 298 F. Supp. 2d, at 586-587.

Before issuing the Engelgau patent the U. S. Patent and Trademark Office (PTO) rejected one of the patent claims that was similar to, but [\*\*\*718] broader than, the present claim 4. The claim did not include the requirement that the sensor be placed on a fixed pivot point. The PTO concluded the claim was an obvious combination of the prior art disclosed in Redding and Smith, explaining:

"Since the prior art references are from the field of endeavor, the purpose disclosed . . . would have been recognized in the pertinent art of Redding. Therefore it would have been obvious . . . to provide the device of Redding with the . . . means attached to a support member as taught by Smith." *Id.*, at 595.

In other words Redding provided an example of an adjustable pedal and Smith explained how to mount a sensor on a pedal's support structure, and the rejected patent claim merely put these two teachings together.

Although the broader claim was rejected, claim 4 was later allowed because it included the limitation of a fixed pivot point, which distinguished the design from Redding's. *Ibid.* Engelgau had not included Asano among the prior art references, and Asano was not mentioned in the patent's prosecution. Thus, the PTO did not have before it an adjustable [\*412] pedal with a fixed pivot point. The patent issued on May 29, 2001, and was assigned to Teleflex.

Upon learning of KSR's design for GM, Teleflex sent a warning letter informing KSR that its proposal

would violate the Engelgau patent. "Teleflex believes that any supplier of a product that combines an adjustable pedal with an electronic throttle control necessarily employs technology covered by one or more" of Teleflex's patents. *Id.*, at 585. KSR refused to enter a royalty arrangement with Teleflex; so Teleflex sued for infringement, asserting KSR's pedal infringed the Engelgau patent and two other patents. *Ibid.* Teleflex later abandoned its claims regarding the other patents and dedicated the patents to the public. The remaining contention was that KSR's pedal system for GM infringed claim 4 of the Engelgau patent. Teleflex has not argued that the other three claims of the patent are infringed by KSR's pedal, nor has Teleflex argued that the mechanical adjustable pedal designed by KSR for Ford infringed any of its patents.

### C

The District Court granted summary judgment in KSR's favor. After reviewing the pertinent history of pedal design, the scope of the Engelgau patent, and the relevant prior art, the court considered the validity of the contested claim. [\*\*\*LEdHR3] [3] By direction of 35 U.S.C. § 282, an issued patent is presumed valid. The District Court applied *Graham's* framework to determine whether under summary-judgment standards KSR had overcome the presumption and demonstrated that claim 4 was obvious in light of the prior art in existence when [\*\*1738] the claimed subject matter was invented. See § 103(a).

The District Court determined, in light of the expert testimony and the parties' stipulations, that the level of ordinary skill in pedal design was "an undergraduate degree in mechanical engineering (or an equivalent amount of industry experience) [and] familiarity with pedal control systems for [\*413] vehicles." 298 F. Supp. 2d, at 590. The court then set forth the relevant prior art, including the patents and pedal designs described above.

[\*\*\*719] Following *Graham's* direction, the court compared the teachings of the prior art to the claims of Engelgau. It found "little difference." 298 F. Supp. 2d, at 590. Asano taught everything contained in claim 4 except the use of a sensor to detect the pedal's position and transmit it to the computer controlling the throttle. That additional aspect was revealed in sources such as the '068 patent and the sensors used by Chevrolet.

Under the controlling cases from the Court of Appeals for the Federal Circuit, however, the District Court was not permitted to stop there. The court was required also to apply the TSM test. The District Court held KSR had satisfied the test. It reasoned (1) the state of the industry would lead inevitably to combinations of electronic sensors and adjustable pedals, (2) Rixon provided the basis for these developments, and (3) Smith taught a solution to the wire chafing problems in Rixon, namely, locating the sensor on the fixed structure of the pedal. This could lead to the combination of Asano, or a pedal like it, with a pedal position sensor.

The conclusion that the Engelgau design was obvious was supported, in the District Court's view, by the PTO's rejection of the broader version of claim 4. Had Engelgau included Asano in his patent application, it reasoned, the PTO would have found claim 4 to be an obvious combination of Asano and Smith, as it had found the broader version an obvious combination of Redding and Smith. As a final matter, the District Court held that the secondary factor of Teleflex's commercial success with pedals based on Engelgau's design did not alter its conclusion. The District Court granted summary judgment for KSR.

With principal reliance on the TSM test, the Court of Appeals reversed. It ruled the District Court had not been strict enough in applying the test, having failed to make [\*414] "finding[s] as to the specific understanding or principle within the knowledge of a skilled artisan that would have motivated one with no knowledge of [the] invention' . . . to attach an electronic control to the support bracket of the Asano assembly." 119 Fed. Appx., at 288 (brackets in original) (quoting *In re Kotzab*, 217 F.3d 1365, 1371 (CA Fed. 2000)). The Court of Appeals held that the District Court was incorrect that the nature of the problem to be solved satisfied this requirement because unless the "prior art references address[ed] the precise problem that the patentee was trying to solve," the problem would not motivate an inventor to look at those references. 119 Fed. Appx., at 288.

Here, the Court of Appeals found, the Asano pedal was designed to solve the "constant ratio problem"--that is, to ensure that the force required to depress the pedal is the same no matter how the pedal is adjusted--whereas Engelgau sought to provide a simpler, smaller, cheaper adjustable electronic pedal. *Ibid.* As for Rixon, the court explained, that pedal suffered from the problem of wire

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chafing but was not designed to solve it. In the court's view Rixon did not teach anything helpful to Engelgau's purpose. Smith, in turn, did not relate to adjustable pedals and did not "necessarily go to the issue of motivation [\*1739] to attach the electronic control on the support bracket of the pedal assembly." *Ibid.* When the patents were interpreted in this way, the Court of Appeals held, they would not have led a person of ordinary skill to put a sensor on the sort of pedal described in Asano.

[\*\*\*720] That it might have been obvious to try the combination of Asano and a sensor was likewise irrelevant, in the court's view, because "[o]bvious to try" has long been held not to constitute obviousness." *Id.*, at 289 (quoting *In re Deuel*, 51 F.3d 1552, 1559 (CA Fed. 1995)).

The Court of Appeals also faulted the District Court's consideration of the PTO's rejection of the broader version of claim 4. The District Court's role, the Court of Appeals explained, was not to speculate regarding what the PTO might [\*415] have done had the Engelgau patent mentioned Asano. Rather, the court held, the District Court was obliged first to presume that the issued patent was valid and then to render its own independent judgment of obviousness based on a review of the prior art. The fact that the PTO had rejected the broader version of claim 4, the Court of Appeals said, had no place in that analysis.

The Court of Appeals further held that genuine issues of material fact precluded summary judgment. Teleflex had proffered statements from one expert that claim 4 "was a simple, elegant, and novel combination of features," 119 Fed. Appx., at 290, compared to Rixon, and from another expert that claim 4 was nonobvious because, unlike in Rixon, the sensor was mounted on the support bracket rather than the pedal itself. This evidence, the court concluded, sufficed to require a trial.

II

A

We begin by rejecting the rigid approach of the Court of Appeals. Throughout this Court's engagement with the question of obviousness, our cases have set forth an expansive and flexible approach inconsistent with the way the Court of Appeals applied its TSM test here. To be sure, *Graham* recognized the need for "uniformity and definiteness." 383 U.S., at 18, 86 S. Ct. 684, 15 L. Ed. 2d

545. Yet the principles laid down in *Graham* reaffirmed the "functional approach" of *Hotchkiss*, 52 U.S. 248, 11 How. 248, 13 L. Ed. 683. See 383 U.S., at 12, 86 S. Ct. 684, 15 L. Ed. 2d 545. To this end, *Graham* set forth a broad inquiry and invited courts, where appropriate, to look at any secondary considerations that would prove instructive. *Id.*, at 17, 86 S. Ct. 684, 15 L. Ed. 2d 545.

Neither the enactment of § 103 nor the analysis in *Graham* disturbed this Court's earlier instructions concerning the need for caution in granting a patent based on the combination of elements found in the prior art. For over a half century, the Court has held that [\*\*\*LEdHR4] [4] a "patent for a combination [\*416] which only unites old elements with no change in their respective functions . . . obviously withdraws what already is known into the field of its monopoly and diminishes the resources available to skillful men." *Great Atlantic & Pacific Tea Co. v. Supermarket Equipment Corp.*, 340 U.S. 147, 152-153, 71 S. Ct. 127, 95 L. Ed. 162, 1951 Dec. Comm'r Pat. 572 (1950). This is a principal reason for declining to allow patents for what is obvious. The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results. Three cases decided after *Graham* illustrate the application of this doctrine.

In *United States v. Adams*, 383 U.S. 39, 40, 86 S. Ct. 708, 15 L. Ed. 2d 572, 174 Ct. Cl. 1293 (1966), a companion case to *Graham*, the Court considered the obviousness of a "wet battery" that varied from [\*\*\*721] prior designs in two ways: [\*\*1740] It contained water, rather than the acids conventionally employed in storage batteries; and its electrodes were magnesium and cuprous chloride, rather than zinc and silver chloride. The Court recognized that when a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result. 383 U.S., at 50-51, 86 S. Ct. 708, 15 L. Ed. 2d 572, 174 Ct. Cl. 1293. It nevertheless rejected the Government's claim that Adams's battery was obvious. The Court relied upon the corollary principle that when the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be nonobvious. *Id.*, at 51-52, 86 S. Ct. 708, 15 L. Ed. 2d 572, 174 Ct. Cl. 1293. When Adams designed his battery, the prior art warned that risks were involved in using the types of electrodes he employed. The fact that the elements worked together in an

550 U.S. 398, \*416; 127 S. Ct. 1727, \*\*1740;  
167 L. Ed. 2d 705, \*\*\*721; 2007 U.S. LEXIS 4745

unexpected and fruitful manner supported the conclusion that Adams's design was not obvious to those skilled in the art.

In *Anderson's-Black Rock, Inc. v. Pavement Salvage Co.*, 396 U.S. 57, 90 S. Ct. 305, 24 L. Ed. 2d 258 (1969), the Court elaborated on this approach. The subject matter of the patent before the Court was a device combining two pre-existing elements: a radiant-heat [\*417] burner and a paving machine. The device, the Court concluded, did not create some new synergy: The radiant-heat burner functioned just as a burner was expected to function; and the paving machine did the same. The two in combination did no more than they would in separate, sequential operation. *Id.*, at 60-62, 90 S. Ct. 305, 24 L. Ed. 2d 258. In those circumstances, "while the combination of old elements performed a useful function, it added nothing to the nature and quality of the radiant-heat burner already patented," and the patent failed under § 103. *Id.*, at 62, 90 S. Ct. 305, 24 L. Ed. 2d 258 (footnote omitted).

Finally, in *Sakraida v. AG Pro, Inc.*, 425 U.S. 273, 96 S. Ct. 1532, 47 L. Ed. 2d 784 (1976), the Court derived from the precedents the conclusion that when a patent "simply arranges old elements with each performing the same function it had been known to perform" and yields no more than one would expect from such an arrangement, the combination is obvious. *Id.*, at 282, 96 S. Ct. 1532, 47 L. Ed. 2d 784.

The principles underlying these cases are instructive when the question is whether a patent claiming the combination of elements of prior art is obvious. [\*\*\*LEdHR5] [5] When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill. *Sakraida* and *Anderson's-Black Rock* are illustrative--a court must ask whether the improvement is more than the predictable use of prior art elements according to their established functions.

Following these principles may be [\*\*\*722] more difficult in other cases than it is here because the claimed subject matter may involve more than the simple

substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement. [\*418] Often, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having [\*\*1741] ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue. To facilitate review, this analysis should be made explicit. See *In re Kahn*, 441 F.3d 977, 988 (CA Fed. 2006) ( [\*\*\*LEdHR6] [6] "[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness"). As our precedents make clear, however, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.

## B

When it first established the requirement of demonstrating a teaching, suggestion, or motivation to combine known elements in order to show that the combination is obvious, the Court of Customs and Patent Appeals captured a helpful insight. See *Application of Bergel*, 292 F.2d 955, 956-957, 48 C.C.P.A. 1102, 1961 Dec. Comm'r Pat. 504 (1961). As is clear from cases such as *Adams*, [\*\*\*LEdHR7] [7] a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. Although common sense directs one to look with care at a patent application that claims as innovation the combination of two known devices according to their established functions, it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does. This is so because inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity [\*419] will be combinations of what, in some sense, is already known.

Helpful insights, however, need not become rigid and mandatory formulas; and when it is so applied, the TSM test is incompatible with our precedents.

[\*\*\*LEdHR8] [8] The obviousness analysis cannot be confined by a formalistic conception of the words teaching, suggestion, and motivation, or by overemphasis on the importance of published articles and the explicit content of issued patents. The diversity of inventive pursuits and of modern technology counsels against limiting the analysis in this way. In many fields it may be that there is little discussion of obvious techniques or combinations, and it often may be the case that market demand, rather than scientific literature, will drive design trends. Granting patent protection to advances that would occur in the ordinary course without real innovation retards progress and may, in the case of patents combining previously known elements, deprive prior inventions of their value or utility.

In the years since the Court of Customs and Patent Appeals set forth the [\*\*\*723] essence of the TSM test, the Court of Appeals no doubt has applied the test in accord with these principles in many cases. There is no necessary inconsistency between the idea underlying the TSM test and the *Graham* analysis. But when a court transforms the general principle into a rigid rule that limits the obviousness inquiry, as the Court of Appeals did here, it errs.

### C

The flaws in the analysis of the Court of Appeals relate for the most part to the court's narrow conception of the obviousness inquiry reflected in its application of the TSM test. [\*\*\*LEdHR9] [9] In determining whether the subject matter of a patent claim is obvious, neither the particular motivation nor the avowed purpose of the [\*\*1742] patentee controls. What matters is the objective reach of the claim. If the claim extends to what is obvious, it is invalid under § 103. One of the ways [\*420] in which a patent's subject matter can be proved obvious is by noting that there existed at the time of invention a known problem for which there was an obvious solution encompassed by the patent's claims.

The first error of the Court of Appeals in this case was to foreclose this reasoning by holding that courts and patent examiners should look only to the problem the patentee was trying to solve. 119 Fed. Appx., at 288. The Court of Appeals failed to recognize that [\*\*\*LEdHR10] [10] the problem motivating the patentee may be only one of many addressed by the patent's subject matter. The question is not whether the combination was obvious to the patentee but whether the combination was obvious to

a person with ordinary skill in the art. Under the correct analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.

The second error of the Court of Appeals lay in its assumption that a person of ordinary skill attempting to solve a problem will be led only to those elements of prior art designed to solve the same problem. *Ibid.* The primary purpose of Asano was solving the constant ratio problem; so, the court concluded, an inventor considering how to put a sensor on an adjustable pedal would have no reason to consider putting it on the Asano pedal. *Ibid.* Common sense teaches, however, that familiar items may have obvious uses beyond their primary purposes, and in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle. Regardless of Asano's primary purpose, the design provided an obvious example of an adjustable pedal with a fixed pivot point; and the prior art was replete with patents indicating that a fixed pivot point was an ideal mount for a sensor. The idea that a designer hoping to make an adjustable electronic pedal would ignore Asano because Asano was designed to solve the constant [\*421] ratio problem makes little sense. A person of ordinary skill is also a person of ordinary creativity, not an automaton.

The same constricted analysis led the Court of Appeals to conclude, in error, that a patent claim cannot be proved obvious merely by showing that the combination of elements was "[o]bvious to try." *Id.*, at 289 (internal quotation marks omitted). [\*\*\*LEdHR11] [11] When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable [\*\*\*724] solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. In that instance the fact that a combination was obvious to try might show that it was obvious under § 103.

The Court of Appeals, finally, drew the wrong conclusion from the risk of courts and patent examiners falling prey to hindsight bias. [\*\*\*LEdHR12] [12] A factfinder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of arguments reliant upon *ex post* reasoning. See *Graham*,

550 U.S. 398, \*421; 127 S. Ct. 1727, \*\*1742;  
167 L. Ed. 2d 705, \*\*\*LEdHR12; 2007 U.S. LEXIS 4745

383 U.S., at 36, 86 S. Ct. 684, 15 L. Ed. 2d 545 (warning against a "temptation to read into the prior art the teachings of the invention in issue" and instructing courts to "'guard against slipping into use of hindsight'" (quoting *Monroe Auto Equip. Co. v. Heckethorn Mfg. & Supply Co.*, 332 F.2d 406, 412 (CA6 1964))). Rigid preventative rules that deny factfinders recourse to common sense, however, are [\*1743] neither necessary under our case law nor consistent with it.

We note the Court of Appeals has since elaborated a broader conception of the TSM test than was applied in the instant matter. See, e.g., *DyStar Textilfarben GmbH & Co. Deutschland KG v. C. H. Patrick Co.*, 464 F.3d 1356, 1367 (CA Fed. 2006) ("Our suggestion test is in actuality quite flexible and not only permits, but *requires*, consideration of common knowledge and common sense"); *Alza Corp. v. Mylan Labs., Inc.*, 464 F.3d 1286, 1291 (2006) ("There is flexibility in our obviousness jurisprudence because a motivation [\*422] may be found *implicitly* in the prior art. We do not have a rigid test that requires an actual teaching to combine . . ."). Those decisions, of course, are not now before us and do not correct the errors of law made by the Court of Appeals in this case. The extent to which they may describe an analysis more consistent with our earlier precedents and our decision here is a matter for the Court of Appeals to consider in its future cases. What we hold is that the fundamental misunderstandings identified above led the Court of Appeals in this case to apply a test inconsistent with our patent law decisions.

### III

When we apply the standards we have explained to the instant facts, claim 4 must be found obvious. We agree with and adopt the District Court's recitation of the relevant prior art and its determination of the level of ordinary skill in the field. As did the District Court, we see little difference between the teachings of Asano and Smith and the adjustable electronic pedal disclosed in claim 4 of the Engelgau patent. A person having ordinary skill in the art could have combined Asano with a pedal position sensor in a fashion encompassed by claim 4, and would have seen the benefits of doing so.

### A

Teleflex argues in passing that the Asano pedal cannot be combined with a sensor in the manner described by claim 4 because of the design of Asano's

pivot mechanisms. See Brief for Respondents 48-49, and n 17. Therefore, Teleflex reasons, even if adding a sensor to Asano was obvious, that does not establish that claim 4 encompasses obvious subject matter. This argument was not, however, [\*\*\*725] raised before the District Court. There Teleflex was content to assert only that the problem motivating the invention claimed by the Engelgau patent would not lead to the solution of combining Asano with a sensor. See Teleflex's Response to KSR's Motion [\*423] for Summary Judgment of Invalidity in No. 02-74586 (ED Mich.), pp 18-20, App. 144a-146a. It is also unclear whether the current argument was raised before the Court of Appeals, where Teleflex advanced the nonspecific, conclusory contention that combining Asano with a sensor would not satisfy the limitations of claim 4. See Brief for Plaintiffs-Appellants in No. 04-1152 (CA Fed.), pp 42-44. Teleflex's own expert declarations, moreover, do not support the point Teleflex now raises. See Declaration of Clark J. Radcliffe, Ph.D., Supp. App. 204-207; Declaration of Timothy L. Andresen, *id.*, at 208-210. The only statement in either declaration that might bear on the argument is found in the Radcliffe declaration:

"Asano . . . and the Rixon . . . are complex mechanical linkage-based devices that are expensive to produce and assemble and difficult to package. It is exactly these difficulties with prior art designs that [Engelgau] resolves. The use of an adjustable pedal with a single pivot reflecting pedal position combined with an electronic control mounted between the [\*\*\*1744] support and the adjustment assembly at that pivot was a simple, elegant, and novel combination of features in the Engelgau'565 patent." *Id.*, at 206, P 16.

Read in the context of the declaration as a whole this is best interpreted to mean that Asano could not be used to solve "[t]he problem addressed by Engelgau'565[:]" to provide a less expensive, more quickly assembled, and smaller package adjustable pedal assembly with electronic control." *Id.*, at 205, P 10.

The District Court found that combining Asano with a pivot-mounted pedal position sensor fell within the scope of claim 4. 298 F. Supp. 2d, at 592-593. Given the



significance of that finding to the District Court's judgment, it is apparent that Teleflex would have made clearer challenges to it if it intended to preserve this claim. In light of Teleflex's failure [\*424] to raise the argument in a clear fashion, and the silence of the Court of Appeals on the issue, we take the District Court's conclusion on the point to be correct.

## B

The District Court was correct to conclude that, as of the time Engलगau designed the subject matter in claim 4, it was obvious to a person of ordinary skill to combine Asano with a pivot-mounted pedal position sensor. There then existed a marketplace that created a strong incentive to convert mechanical pedals to electronic pedals, and the prior art taught a number of methods for achieving this advance. The Court of Appeals considered the issue too narrowly by, in effect, asking whether a pedal designer writing on a blank slate would have chosen both Asano and a modular sensor similar to the ones used in the Chevrolet truckline and disclosed in the '068 patent. The District Court employed this narrow inquiry as well, though it reached the correct result nevertheless. The proper question to have asked was whether a pedal designer of ordinary skill, facing the wide range of needs created by developments in the field of endeavor, [\*\*\*726] would have seen a benefit to upgrading Asano with a sensor.

In automotive design, as in many other fields, the interaction of multiple components means that changing one component often requires the others to be modified as well. Technological developments made it clear that engines using computer-controlled throttles would become standard. As a result, designers might have decided to design new pedals from scratch; but they also would have had reason to make pre-existing pedals work with the new engines. Indeed, upgrading its own pre-existing model led KSR to design the pedal now accused of infringing the Engलगau patent.

For a designer starting with Asano, the question was where to attach the sensor. The consequent legal question, then, is whether a pedal designer of ordinary skill starting with Asano would have found it obvious to put the sensor on [\*425] a fixed pivot point. The prior art discussed above leads us to the conclusion that attaching the sensor where both KSR and Engलगau put it would have been obvious to a person of ordinary skill.

The '936 patent taught the utility of putting the sensor on the pedal device, not in the engine. Smith, in turn, explained to put the sensor not on the pedal's footpad but instead on its support structure. And from the known wire-chafing problems of Rixon, and Smith's teaching that "the pedal assemblies must not precipitate any motion in the connecting wires," Smith, col. 1, ll. 35-37, Supp. App. 274, the designer would know to place the sensor on a nonmoving part of the pedal structure. The most obvious nonmoving point on the structure from which a sensor can [\*\*1745] easily detect the pedal's position is a pivot point. The designer, accordingly, would follow Smith in mounting the sensor on a pivot, thereby designing an adjustable electronic pedal covered by claim 4.

Just as it was possible to begin with the objective to upgrade Asano to work with a computer-controlled throttle, so too was it possible to take an adjustable electronic pedal like Rixon and seek an improvement that would avoid the wire-chafing problem. Following similar steps to those just explained, a designer would learn from Smith to avoid sensor movement and would come, thereby, to Asano because Asano disclosed an adjustable pedal with a fixed pivot.

Teleflex indirectly argues that the prior art taught away from attaching a sensor to Asano because Asano in its view is bulky, complex, and expensive. The only evidence Teleflex marshals in support of this argument, however, is the Radcliffe declaration, which merely indicates that Asano would not have solved Engलगau's goal of making a small, simple, and inexpensive pedal. What the declaration does not indicate is that Asano was somehow so flawed that there was no reason to upgrade it, or pedals like it, to be compatible with modern engines. Indeed, Teleflex's own declarations [\*426] refute this conclusion. Dr. Radcliffe states that Rixon suffered from the same bulk and complexity as did Asano. See *id.*, at 206. Teleflex's other expert, however, explained that Rixon was itself designed by adding a sensor to a pre-existing mechanical pedal. See *id.*, at 209. If Rixon's base pedal was not too flawed to upgrade, then Dr. Radcliffe's declaration does not show Asano was either. Teleflex may have made a plausible argument that Asano is inefficient as compared [\*\*\*727] to Engलगau's preferred embodiment, but to judge Asano against Engलगau would be to engage in the very hindsight bias Teleflex rightly urges must be avoided. Accordingly, Teleflex has not shown anything in the prior art that

taught away from the use of Asano.

Like the District Court, finally, we conclude Teleflex has shown no secondary factors to dislodge the determination that claim 4 is obvious. Proper application of *Graham* and our other precedents to these facts therefore leads to the conclusion that claim 4 encompassed obvious subject matter. As a result, the claim fails to meet the requirement of § 103.

We need not reach the question whether the failure to disclose Asano during the prosecution of Engelgau voids the presumption of validity given to issued patents, for claim 4 is obvious despite the presumption. We nevertheless think it appropriate to note that the rationale underlying the presumption--that the PTO, in its expertise, has approved the claim--seems much diminished here.

#### IV

A separate ground the Court of Appeals gave for reversing the order for summary judgment was the existence of a dispute over an issue of material fact. We disagree with the Court of Appeals on this point as well. To the extent the court understood the *Graham* approach to exclude the possibility of summary judgment when an expert provides a conclusory affidavit addressing the question of obviousness, it misunderstood the role expert testimony plays in the analysis. [\*\*\*LEdHR13] [13] [\*427] In considering summary judgment on that question the district court can and should take into account expert testimony, which may resolve or keep open certain questions of fact. That is not the end of the issue, however. The ultimate judgment of obviousness is a legal determination. *Graham*, 383 U.S., at 17, 86 S. Ct. 684, 15 L. Ed. 2d 545. Where, as here, the content of the prior art, the scope of the patent [\*\*1746] claim, and the level of ordinary skill in the art are not in material dispute, and the obviousness of the claim is apparent in light of these factors, summary judgment is appropriate. Nothing in the declarations proffered by Teleflex prevented the District Court from reaching the careful conclusions underlying its order for summary judgment in this case.

\* \* \*

We build and create by bringing to the tangible and palpable reality around us new works based on instinct, simple logic, ordinary inferences, extraordinary ideas, and sometimes even genius. These advances, once part of our shared knowledge, define a new threshold from which innovation starts once more. And [\*\*\*LEdHR14] [14] as progress beginning from higher levels of achievement is expected in the normal course, the results of ordinary innovation are not the subject of exclusive rights under the patent laws. Were it otherwise patents might stifle, rather than promote, the progress of useful arts. See U.S. Const., Art. I, § 8, cl. 8. These premises led to the bar on patents claiming obvious subject matter established in *Hotchkiss* and codified in § 103. Application of the bar must not be confined within a test or formulation too constrained to serve its purpose.

KSR provided convincing evidence that mounting a modular sensor on a fixed pivot point of the Asano pedal was a design step well within the [\*\*\*728] grasp of a person of ordinary skill in the relevant art. Its arguments, and the record, demonstrate that claim 4 of the Engelgau patent is obvious. In rejecting the District Court's rulings, the Court of Appeals [\*428] analyzed the issue in a narrow, rigid manner inconsistent with § 103 and our precedents. The judgment of the Court of Appeals is reversed, and the case is remanded for further proceedings consistent with this opinion.

It is so ordered.

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1 of 8 DOCUMENTS

IN RE BERNARD L. BILSKI and RAND A. WARSAW

2007-1130

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

545 F.3d 943; 2008 U.S. App. LEXIS 22479; 2008-2 U.S. Tax Cas. (CCH) P50,621

October 30, 2008, Decided

**SUBSEQUENT HISTORY:** Petition for certiorari filed at, 01/28/2009

**PRIOR HISTORY:** [\*\*1]

Appealed from: United States Patent and Trademark Office, Board of Patent Appeals and Interferences. (Serial No. 08/833,892).

**DISPOSITION:** AFFIRMED.

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**JUDGES:** Before MICHEL, Chief Judge, NEWMAN, MAYER, LOURIE, RADER, SCHALL, BRYSON, GAJARSA, LINN, DYK, PROST, and MOORE, Circuit Judges. Opinion for the court filed by Chief Judge MICHEL, in which Circuit Judges LOURIE, SCHALL, BRYSON, GAJARSA, LINN, DYK, PROST, and MOORE join. Concurring opinion filed by Circuit Judge DYK, in which Circuit Judge LINN joins. Dissenting opinion filed by Circuit Judge NEWMAN. Dissenting opinion filed by Circuit Judge MAYER. Dissenting opinion filed by Circuit [\*\*9] Judge RADER.

## **OPINION BY: MICHEL**

### **OPINION**

[\*949] MICHEL, Chief Judge.

Bernard L. Bilski and Rand A. Warsaw (collectively, "Applicants") appeal from the final decision of the Board of Patent Appeals and Interferences ("Board") sustaining the rejection of all eleven claims of their U.S. Patent Application Serial No. 08/833,892 ("892 application"). See *Ex parte Bilski*, No. 2002-2257, 2006 Pat. App. LEXIS 51, 2006 WL 5738364 (B.P.A.I. Sept. 26, 2006) ("Board Decision"). Specifically, Applicants argue that the examiner erroneously rejected the claims as not directed to patent-eligible subject matter under 35 U.S.C. § 101, and that the Board erred in upholding that rejection. The appeal was originally argued before a panel of the court on October 1, 2007. Prior to disposition by the panel, however, we sua sponte ordered en banc review. Oral argument before the en banc court was held on May 8, 2008. We affirm the decision of the Board

because we conclude that Applicants' claims are not directed to patent-eligible subject matter, and in doing so, we clarify the standards applicable in determining whether a claimed method constitutes a statutory "process" under § 101.

#### I.

Applicants filed their patent application on April 10, 1997. The application [\*\*10] contains eleven claims, which Applicants argue together here. Claim 1 reads:

A method for managing the consumption risk costs of a commodity sold by a commodity provider at a fixed price comprising the steps of:

(a) initiating a series of transactions between said commodity provider and consumers of said commodity wherein said consumers purchase said commodity at a fixed rate based upon historical averages, said fixed rate corresponding to a risk position of said consumer;

(b) identifying market participants for said commodity having a counter-risk position to said consumers; and

(c) initiating a series of transactions between said commodity provider and said market participants at a second fixed rate such that said series of market participant transactions balances the risk position of said series of consumer transactions

'892 application cl.1. In essence, the claim is for a method of hedging risk in the field of commodities trading. For example, coal power plants (i.e., the "consumers") purchase coal to produce electricity and are averse to the risk of a spike in demand for coal since such a spike would increase the price and their costs. Conversely, coal mining companies (i.e., the "market [\*\*11] participants") are averse to the risk of a sudden drop in demand for coal since such a drop would reduce their sales and depress prices. The claimed method envisions an [\*950] intermediary, the "commodity provider," that sells coal to the power plants at a fixed price, thus isolating the power plants from the possibility of a spike in demand increasing the price of coal above the fixed price. The same provider buys coal from mining companies at a second fixed price, thereby isolating the mining

companies from the possibility that a drop in demand would lower prices below that fixed price. And the provider has thus hedged its risk; if demand and prices skyrocket, it has sold coal at a disadvantageous price but has bought coal at an advantageous price, and vice versa if demand and prices fall. Importantly, however, the claim is not limited to transactions involving actual commodities, and the application discloses that the recited transactions may simply involve options, i.e., rights to purchase or sell the commodity at a particular price within a particular timeframe. See J.A. at 86-87.

The examiner ultimately rejected claims 1-11 under 35 U.S.C. § 101, stating: "[r]egarding . . . claims 1-11, [\*\*12] the invention is not implemented on a specific apparatus and merely manipulates [an] abstract idea and solves a purely mathematical problem without any limitation to a practical application, therefore, the invention is not directed to the technological arts." See Board Decision, slip op. at 3, 2006 Pat. App. LEXIS 51. The examiner noted that Applicants had admitted their claims are not limited to operation on a computer, and he concluded that they were not limited by any specific apparatus. See id. at 4, 2006 Pat. App. LEXIS 51.

On appeal, the Board held that the examiner erred to the extent he relied on a "technological arts" test because the case law does not support such a test. Id. at 41-42, 2006 Pat. App. LEXIS 51. Further, the Board held that the requirement of a specific apparatus was also erroneous because a claim that does not recite a specific apparatus may still be directed to patent-eligible subject matter "if there is a transformation of physical subject matter from one state to another." Id. at 42, 2006 Pat. App. LEXIS 51. Elaborating further, the Board stated: "'mixing' two elements or compounds to produce a chemical substance or mixture is clearly a statutory transformation although no apparatus is claimed to perform the step and although the step could be performed [\*\*13] manually." Id. But the Board concluded that Applicants' claims do not involve any patent-eligible transformation, holding that transformation of "non-physical financial risks and legal liabilities of the commodity provider, the consumer, and the market participants" is not patent-eligible subject matter. Id. at 43, 2006 Pat. App. LEXIS 51. The Board also held that Applicants' claims "preempt[] any and every possible way of performing the steps of the [claimed process], by human or by any kind of machine or by any combination thereof," and thus concluded that

they only claim an abstract idea ineligible for patent protection. *Id.* at 46-47, 2006 Pat. App. LEXIS 51. Finally, the Board held that Applicants' process as claimed did not produce a "useful, concrete and tangible result," and for this reason as well was not drawn to patent-eligible subject matter. *Id.* at 49-50, 2006 Pat. App. LEXIS 51.

Applicants timely appealed to this court under 35 U.S.C. § 141. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

## II.

Whether a claim is drawn to patent-eligible subject matter under § 101 is a threshold inquiry, and any claim of an application failing the requirements of § 101 must be rejected even if it meets all of the other legal requirements of patentability. In *re* Comiskey, 499 F.3d 1365, 1371 (Fed. Cir. 2007) [\*14] <sup>1</sup> (quoting *Parker v. Flook*, 437 U.S. 584, 593, 98 S. Ct. 2522, 57 L. Ed. 2d 451 (1978)); In *re* Bergy, 596 F.2d 952, 960 (CCPA 1979), vacated as moot sub nom. *Diamond v. Chakrabarty*, 444 U.S. 1028, 100 S. Ct. 696, 62 L. Ed. 2d 664 (1980). Whether a claim is drawn to patent-eligible subject matter under § 101 is an issue of law that we review *de novo*. *Comiskey*, 499 F.3d at 1373; *AT&T Corp. v. Excel Commc'ns, Inc.*, 172 F.3d 1352, 1355 (Fed. Cir. 1998). Although claim construction, which we also review *de novo*, is an important first step in a § 101 analysis, see *State St. Bank & Trust Co. v. Signature Fin. Group*, 149 F.3d 1368, 1370 (Fed. Cir. 1998) (noting that whether a claim is invalid under § 101 "is a matter of both claim construction and statutory construction"), there is no claim construction dispute in this appeal. We review issues of statutory interpretation such as this one *de novo* as well. *Id.*

<sup>1</sup> Although our decision in *Comiskey* may be misread by some as requiring in every case that the examiner conduct a § 101 analysis before assessing any other issue of patentability, we did not so hold. As with any other patentability requirement, an examiner may reject a claim solely on the basis of § 101. Or, if the examiner deems it appropriate, she may [\*15] reject the claim on any other ground(s) without addressing § 101. But given that § 101 is a threshold requirement, claims that are clearly drawn to unpatentable subject matter should be identified and rejected on that basis. Thus, an examiner

should generally first satisfy herself that the application's claims are drawn to patent-eligible subject matter.

## A.

As this appeal turns on whether Applicants' invention as claimed meets the requirements set forth in § 101, we begin with the words of the statute:

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.

35 U.S.C. § 101. The statute thus recites four categories of patent-eligible subject matter: processes, machines, manufactures, and compositions of matter. It is undisputed that Applicants' claims are not directed to a machine, manufacture, or composition of matter. <sup>2</sup> Thus, the issue before us involves what the term "process" in § 101 means, and how to determine whether a given claim--and Applicants' claim 1 in particular--is a "new and useful process." <sup>3</sup>

<sup>2</sup> As [\*16] a result, we decline to discuss *In re Nuijten* because that decision primarily concerned whether a claim to an electronic signal was drawn to a patent-eligible manufacture. 500 F.3d 1346, 1356-57 (Fed. Cir. 2007). We note that the PTO did not dispute that the process claims in *Nuijten* were drawn to patent-eligible subject matter under § 101 and allowed those claims.

<sup>3</sup> Congress provided a definition of "process" in 35 U.S.C. § 100(b): "The term 'process' means process, art or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material." However, this provision is unhelpful given that the definition itself uses the term "process."

As several amici have argued, the term "process" is ordinarily broad in meaning, at least in general lay usage. In 1952, at the time Congress amended § 101 to include "process," <sup>4</sup> the ordinary meaning of [\*952] the term was: "[a] procedure . . . [a] series of actions, motions, or operations definitely conducing to an end, whether voluntary or involuntary." WEBSTER'S NEW INTERNATIONAL DICTIONARY OF THE ENGLISH

LANGUAGE 1972 (2d ed. 1952). There can be no dispute that Applicants' claim would meet this definition of "process." [\*\*17] But the Supreme Court has held that the meaning of "process" as used in § 101 is narrower than its ordinary meaning. See *Flook*, 437 U.S. at 588-89 ("The holding [in *Benson*] forecloses a purely literal reading of § 101."). Specifically, the Court has held that a claim is not a patent-eligible "process" if it claims "laws of nature, natural phenomena, [or] abstract ideas." *Diamond v. Diehr*, 450 U.S. 175, 185, 101 S. Ct. 1048, 67 L. Ed. 2d 155 (1981) (citing *Flook*, 437 U.S. at 589, and *Gottschalk v. Benson*, 409 U.S. 63, 67, 93 S. Ct. 253, 34 L. Ed. 2d 273 (1972)). Such fundamental principles<sup>5</sup> are "part of the storehouse of knowledge of all men . . . free to all men and reserved exclusively to none." *Funk Bros. Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127, 130, 68 S. Ct. 440, 92 L. Ed. 588, 1948 Dec. Comm'r Pat. 671 (1948); see also *Le Roy v. Tatham*, 55 U.S. (14 How.) 156, 175, 14 L. Ed. 367 (1852) ("A principle, in the abstract, is a fundamental truth; an original cause; a motive; these cannot be patented, as no one can claim in either of them an exclusive right."). "Phenomena of nature, though just discovered, mental processes, and abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work." *Benson*, 409 U.S. at 67; see also *Comiskey*, 499 F.3d at 1378-79 (holding that [\*\*18] "mental processes," "processes of human thinking," and "systems that depend for their operation on human intelligence alone" are not patent-eligible subject matter under *Benson*).

4 The Patent Act of 1793 originally used the term "art" rather than "process," which remained unchanged until Congress enacted the current version of § 101 in 1952. But the Supreme Court has held that this change did not alter the scope of patent eligibility over processes because "[i]n the language of the patent law, [a process] is an art." *Diamond v. Diehr*, 450 U.S. 175, 182-84, 101 S. Ct. 1048, 67 L. Ed. 2d 155 (1981) (quoting *Cochrane v. Deener*, 94 U.S. 780, 787-88, 24 L. Ed. 139, 1877 Dec. Comm'r Pat. 242 (1877)); see also *Comiskey*, 499 F.3d at 1375.

5 As used in this opinion, "fundamental principles" means "laws of nature, natural phenomena, and abstract ideas."

The true issue before us then is whether Applicants are seeking to claim a fundamental principle (such as an abstract idea) or a mental process. And the underlying

legal question thus presented is what test or set of criteria governs the determination by the Patent and Trademark Office ("PTO") or courts as to whether a claim to a process is patentable under § 101 or, conversely, is drawn to unpatentable subject matter because [\*\*19] it claims only a fundamental principle.

The Supreme Court last addressed this issue in 1981 in *Diehr*, which concerned a patent application seeking to claim a process for producing cured synthetic rubber products. 450 U.S. at 177-79. The claimed process took temperature readings during cure and used a mathematical algorithm, the Arrhenius equation, to calculate the time when curing would be complete. *Id.* Noting that a mathematical algorithm alone is unpatentable because mathematical relationships are akin to a law of nature, the Court nevertheless held that the claimed process was patent-eligible subject matter, stating:

[The inventors] do not seek to patent a mathematical formula. Instead, they seek patent protection for a process of curing synthetic rubber. Their process admittedly employs a well-known mathematical equation, but they do not seek to pre-empt the use of that equation. Rather, they seek only to foreclose from others the use of that equation in conjunction with all of the other steps in their claimed process.

*Id.* at 187 (emphasis added ).<sup>6</sup> [\*\*953] The Court declared that while a claim drawn to a fundamental principle is unpatentable, "an application of a law of nature or mathematical [\*\*20] formula to a known structure or process may well be deserving of patent protection." *Id.* (emphasis in original); see also *Mackay Radio & Tel. Co. v. Radio Corp. of Am.*, 306 U.S. 86, 94, 59 S. Ct. 427, 83 L. Ed. 506, 1939 Dec. Comm'r Pat. 857 (1939) ("While a scientific truth, or the mathematical expression of it, is not a patentable invention, a novel and useful structure created with the aid of knowledge of scientific truth may be.").

6 Mathematical algorithms have, in other cases, been identified instead as abstract ideas rather than laws of nature. See, e.g., *State St.*, 149 F.3d at 1373. Whether either or both views are correct is immaterial since both laws of nature and abstract ideas are unpatentable under § 101.



Diehr, 450 U.S. at 185.

The Court in Diehr thus drew a distinction between those claims that "seek to pre-empt the use of" a fundamental principle, on the one hand, and claims that seek only to foreclose others from using a particular "application" of that fundamental principle, on the other. 450 U.S. at 187. Patents, by definition, grant the power to exclude others from practicing that which the patent claims. Diehr can be understood to suggest that whether a claim is drawn only to a fundamental principle is essentially an inquiry [\*\*21] into the scope of that exclusion; i.e., whether the effect of allowing the claim would be to allow the patentee to pre-empt substantially all uses of that fundamental principle. If so, the claim is not drawn to patent-eligible subject matter.

In Diehr, the Court held that the claims at issue did not pre-empt all uses of the Arrhenius equation but rather claimed only "a process for curing rubber . . . which incorporates in it a more efficient solution of the equation." 450 U.S. at 188. The process as claimed included several specific steps to control the curing of rubber more precisely: "These include installing rubber in a press, closing the mold, constantly determining the temperature of the mold, constantly recalculating the appropriate cure time through the use of the formula and a digital computer, and automatically opening the press at the proper time." Id. at 187. Thus, one would still be able to use the Arrhenius equation in any process not involving curing rubber, and more importantly, even in any process to cure rubber that did not include performing "all of the other steps in their claimed process." See id.; see also *Tilghman v. Proctor*, 102 U.S. 707, 729, 26 L. Ed. 279, 1881 Dec. Comm'r Pat. 163 (1880) (holding patentable [\*\*22] a process of breaking down fat molecules into fatty acids and glycerine in water specifically requiring both high heat and high pressure since other processes, known or as yet unknown, using the reaction of water and fat molecules were not claimed).

In contrast to Diehr, the earlier *Benson* case presented the Court with claims drawn to a process of converting data in binary-coded decimal ("BCD") format to pure binary format via an algorithm programmed onto a digital computer. *Benson*, 409 U.S. at 65. The Court held the claims to be drawn to unpatentable subject matter:

It is conceded that one may not patent an idea. But in practical effect that would be the result if the formula for converting BCD numerals to pure binary numerals were patented in this case. The mathematical formula involved here has no substantial practical application except in connection with a digital computer, which means that if the judgment below is affirmed, the patent would wholly pre-empt the mathematical formula [\*954] and in practical effect would be a patent on the algorithm itself.

Id. at 71-72 (emphasis added). Because the algorithm had no uses other than those that would be covered by the claims (i.e., any conversion [\*\*23] of BCD to pure binary on a digital computer), the claims pre-empted all uses of the algorithm and thus they were effectively drawn to the algorithm itself. See also *O'Reilly v. Morse*, 56 U.S. (15 How.) 62, 113, 14 L. Ed. 601 (1853) (holding ineligible a claim pre-empting all uses of electromagnetism to print characters at a distance).

The question before us then is whether Applicants' claim recites a fundamental principle and, if so, whether it would pre-empt substantially all uses of that fundamental principle if allowed. Unfortunately, this inquiry is hardly straightforward. How does one determine whether a given claim would pre-empt all uses of a fundamental principle? Analogizing to the facts of *Diehr* or *Benson* is of limited usefulness because the more challenging process claims of the twenty-first century are seldom so clearly limited in scope as the highly specific, plainly corporeal industrial manufacturing process of *Diehr*; nor are they typically as broadly claimed or purely abstract and mathematical as the algorithm of *Benson*.

The Supreme Court, however, has enunciated a definitive test to determine whether a process claim is tailored narrowly enough to encompass only a particular application [\*\*24] of a fundamental principle rather than to pre-empt the principle itself. A claimed process is surely patent-eligible under § 101 if: (1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing. See *Benson*, 409 U.S. at 70 ("Transformation and reduction of an article 'to a different state or thing' is the clue to the patentability of a process claim that does not include

particular machines."); Diehr, 450 U.S. at 192 (holding that use of mathematical formula in process "transforming or reducing an article to a different state or thing" constitutes patent-eligible subject matter); see also Flook, 437 U.S. at 589 n.9 ("An argument can be made [that the Supreme] Court has only recognized a process as within the statutory definition when it either was tied to a particular apparatus or operated to change materials to a 'different state or thing'"); Cochrane v. Deener, 94 U.S. 780, 788, 24 L. Ed. 139, 1877 Dec. Comm'r Pat. 242 (1876) ("A process is . . . an act, or a series of acts, performed upon the subject-matter to be transformed and reduced to a different state or thing."). <sup>7</sup> A claimed process involving a fundamental principle that uses a particular machine or <sup>8</sup> apparatus would not pre-empt uses of the principle that do not also use the specified machine or apparatus in the manner claimed. And a claimed process that transforms a particular article to a specified different state or thing by applying a fundamental principle would not pre-empt the use of the principle to transform any other article, to transform the same article but in a manner not covered by the claim, or to do anything other than transform the specified article.

7 While the Court did not give explicit definitions of terms such as "tied to," "transforms," or "article," a careful analysis of its opinions and the subsequent jurisprudence of this court applying those decisions, discussed *infra*, informs our understanding of the Court's machine-or-transformation test.

The process claimed in Diehr, for example, clearly met both criteria. The process operated on a computerized rubber curing apparatus and transformed raw, uncured rubber into molded, cured rubber products. Diehr, 450 U.S. at 184, 187. <sup>8</sup> The claim at issue in Flook, in contrast, was directed to using a particular mathematical formula to calculate an "alarm limit"--a value that would indicate an abnormal condition during an <sup>9</sup> unspecified chemical reaction. 437 U.S. at 586. The Court rejected the claim as drawn to the formula itself because the claim did not include any limitations specifying "how to select the appropriate margin of safety, the weighting factor, or any of the other variables . . . the chemical processes at work, the [mechanism for] monitoring of process variables, or the means of setting off an alarm or adjusting an alarm system." See *id.* at 586, 595. The claim thus was not limited to any particular chemical (or other) transformation; nor was it tied to any

specific machine or apparatus for any of its process steps, such as the selection or monitoring of variables or the setting off or adjusting of the alarm. <sup>8</sup> See *id.*

8 To the extent it may be argued that Flook did not explicitly follow the machine-or-transformation test first articulated in Benson, we note that the more recent decision in Diehr reaffirmed the machine-or-transformation test. See Diehr, 450 U.S. at 191-92. Moreover, the Diehr Court explained that Flook "presented a similar situation" to Benson and considered it consistent with the holdings of Diehr and Benson. Diehr at 186-87, 189, 191-92. We thus follow the Diehr Court's <sup>9</sup> understanding of Flook.

A canvas of earlier Supreme Court cases reveals that the results of those decisions were also consistent with the machine-or-transformation test later articulated in Benson and reaffirmed in Diehr. See *Tilghman*, 102 U.S. at 729 (particular process of transforming fats into constituent compounds held patentable); *Cochrane*, 94 U.S. at 785-88 (process transforming grain meal into purified flour held patentable); *Morse*, 56 U.S. (15 How.) at 113 (process of using electromagnetism to print characters at a distance that was not transformative or tied to any particular apparatus held unpatentable). Interestingly, Benson presents a difficult case under its own test in that the claimed process operated on a machine, a digital computer, but was still held to be ineligible subject matter. <sup>9</sup> However, in Benson, the limitations tying the process to a computer were not actually limiting because the fundamental principle at issue, a particular algorithm, had no utility other than operating on a digital computer. Benson, 409 U.S. at 71-72. Thus, the claim's tie to a digital computer did not reduce the preemptive footprint of the claim since all uses of the algorithm were still <sup>10</sup> covered by the claim.

9 We acknowledge that the Supreme Court in Benson stated that the claims at issue "were not limited . . . to any particular apparatus or machinery." 409 U.S. at 64. However, the Court immediately thereafter stated: "[The claims] purported to cover any use of the claimed method in a general-purpose digital computer of any type." *Id.* And, as discussed herein, the Court relied for its holding on its understanding that the claimed process pre-empted all uses of the recited algorithm because its only possible use was on a

digital computer. *Id.* at 71-72. The *Diehr* Court, in discussing *Benson*, relied only on this latter understanding of the *Benson* claims. See *Diehr*, 450 U.S. at 185-87. We must do the same.

B.

Applicants and several amici <sup>10</sup> have argued that the Supreme Court did not intend the machine-or-transformation test to be the sole test governing § 101 analyses. As already noted, however, the Court explicitly stated in *Benson* that "[t]ransformation and reduction of an article 'to a [\*956] different state or thing' is the clue to the patentability of a process claim that does not include particular machines." <sup>11</sup> 409 U.S. at 70 (emphasis added). And the Court itself later <sup>\*\*29</sup> noted in *Flook* that at least so far it had "only recognized a process as within the statutory definition when it either was tied to a particular apparatus or operated to change materials to a 'different state or thing.'" 437 U.S. at 589 n.9. Finally, the Court in *Diehr* once again applied the machine-or-transformation test in its most recent decision regarding the patentability of processes under § 101. 450 U.S. at 184.

<sup>10</sup> See, e.g., Br. of Amicus Curiae Am. Intellectual Prop. Law Ass'n at 17-21; Br. of Amicus Curiae Regulatory Datacorp, Inc. at 10-15.

<sup>11</sup> We believe that the Supreme Court spoke of the machine-or-transformation test as the "clue" to patent-eligibility because the test is the tool used to determine whether a claim is drawn to a statutory "process"--the statute does not itself explicitly mention machine implementation or transformation. We do not consider the word "clue" to indicate that the machine-or-implementation test is optional or merely advisory. Rather, the Court described it as the clue, not merely "a" clue. See *Benson*, 409 U.S. at 70.

We recognize, however, that the Court was initially equivocal in first putting forward this test in *Benson*. As the Applicants and several <sup>\*\*30</sup> amici point out, the Court there stated:

It is argued that a process patent must either be tied to a particular machine or apparatus or must operate to change articles or materials to a 'different state or

thing.' We do not hold that no process patent could ever qualify if it did not meet the requirements of our prior precedents.

*Benson*, 409 U.S. at 71. In *Flook*, the Court took note that this statement had been made in *Benson* but merely stated: "As in *Benson*, we assume that a valid process patent may issue even if it does not meet [the machine-or-transformation test]." 437 U.S. at 589 n.9 (emphasis added). And this caveat was not repeated in *Diehr* when the Court reaffirmed the machine-or-transformation test. See *Diehr*, 450 U.S. at 184 (quoting *Benson*, 409 U.S. at 70) ("Transformation and reduction of an article 'to a different state or thing' is the clue to the patentability of a process claim that does not include particular machines."). Therefore, we believe our reliance on the Supreme Court's machine-or-transformation test as the applicable test for § 101 analyses of process claims is sound.

Nevertheless, we agree that future developments in technology and the sciences may present <sup>\*\*31</sup> difficult challenges to the machine-or-transformation test, just as the widespread use of computers and the advent of the Internet has begun to challenge it in the past decade. Thus, we recognize that the Supreme Court may ultimately decide to alter or perhaps even set aside this test to accommodate emerging technologies. And we certainly do not rule out the possibility that this court may in the future refine or augment the test or how it is applied. At present, however, and certainly for the present case, we see no need for such a departure and reaffirm that the machine-or-transformation test, properly applied, is the governing test for determining patent eligibility of a process under § 101. <sup>12</sup>

<sup>12</sup> The *Diehr* Court stated: "[W]hen a claim containing a mathematical formula implements or applies that formula in a structure or process which, when considered as a whole, is performing a function which the patent laws were designed to protect (e.g., transforming or reducing an article to a different state or thing), then the claim satisfies the requirements of § 101." 450 U.S. at 192 (emphases added). When read together with *Benson* and *Flook*, on which the *Diehr* Court firmly relied, we believe <sup>\*\*32</sup> this statement is consistent with the machine-or-transformation test. But as we noted in *AT&T*, language such as the use of "e.g." may indicate the Supreme Court's

recognition that the machine-or-transformation test might require modification in the future. See AT&T, 172 F.3d at 1358-59.

[\*957] C.

As a corollary, the Diehr Court also held that mere field-of-use limitations are generally insufficient to render an otherwise ineligible process claim patent-eligible. See 450 U.S. at 191-92 (noting that ineligibility under § 101 "cannot be circumvented by attempting to limit the use of the formula to a particular technological environment"). We recognize that tension may be seen between this consideration and the Court's overall goal of preventing the wholesale pre-emption of fundamental principles. Why not permit patentees to avoid overbroad pre-emption by limiting claim scope to particular fields of use? This tension is resolved, however, by recalling the purpose behind the Supreme Court's discussion of pre-emption, namely that pre-emption is merely an indication that a claim seeks to cover a fundamental principle itself rather than only a specific application of that principle. See *id.* at 187; [\*33] *Benson*, 409 U.S. at 71-72. Pre-emption of all uses of a fundamental principle in all fields and pre-emption of all uses of the principle in only one field both indicate that the claim is not limited to a particular application of the principle. See *Diehr*, 450 U.S. at 193 n.14 ("A mathematical formula in the abstract is nonstatutory subject matter regardless of whether the patent is intended to cover all uses of the formula or only limited uses.") (emphasis added). In contrast, a claim that is tied to a particular machine or brings about a particular transformation of a particular article does not pre-empt all uses of a fundamental principle in any field but rather is limited to a particular use, a specific application. Therefore, it is not drawn to the principle in the abstract.

The *Diehr* Court also reaffirmed a second corollary to the machine-or-transformation test by stating that "insignificant postsolution activity will not transform an unpatentable principle into a patentable process." *Id.* at 191-92; see also *Flook*, 437 U.S. at 590 ("The notion that post-solution activity, no matter how conventional or obvious in itself, can transform an unpatentable principle into a patentable [\*34] process exalts form over substance."). The Court in *Flook* reasoned:

A competent draftsman could attach some form of post-solution activity to

almost any mathematical formula; the Pythagorean theorem would not have been patentable, or partially patentable, because a patent application contained a final step indicating that the formula, when solved, could be usefully applied to existing surveying techniques.

437 U.S. at 590. <sup>13</sup> Therefore, even if a claim recites a specific machine or a particular transformation of a specific article, the recited machine or transformation must not constitute mere "insignificant postsolution activity." <sup>14</sup>

13 The example of the Pythagorean theorem applied to surveying techniques could also be considered an example of a mere field-of-use limitation.

14 Although the Court spoke of "postsolution" activity, we have recognized that the Court's reasoning is equally applicable to any insignificant extra-solution activity regardless of where and when it appears in the claimed process. See *In re Schrader*, 22 F.3d 290, 294 (Fed. Cir. 1994) (holding a simple recodation step in the middle of the claimed process incapable of imparting patent-eligibility under § 101); *In re Grams*, 888 F.2d 835, 839-40 (Fed. Cir. 1989) [\*35] (holding a pre-solution step of gathering data incapable of imparting patent-eligibility under § 101).

[\*958] D.

We discern two other important aspects of the Supreme Court's § 101 jurisprudence. First, the Court has held that whether a claimed process is novel or non-obvious is irrelevant to the § 101 analysis. *Diehr*, 450 U.S. at 188-91. Rather, such considerations are governed by 35 U.S.C. § 102 (novelty) and § 103 (non-obviousness). *Diehr*, 450 U.S. at 188-91. Although § 101 refers to "new and useful" processes, it is overall "a general statement of the type of subject matter that is eligible for patent protection 'subject to the conditions and requirements of this title.'" *Diehr*, 450 U.S. at 189 (quoting § 101). As the legislative history of § 101 indicates, Congress did not intend the "new and useful" language of § 101 to constitute an independent requirement of novelty or non-obviousness distinct from the more specific and detailed requirements of §§ 102

and 103, respectively. *Diehr*, 450 U.S. at 190-91.<sup>15</sup> So here, it is irrelevant to the § 101 analysis whether Applicants' claimed process is novel or non-obvious.

15 By the same token, considerations of adequate written description, enablement, [\*\*36] best mode, etc., are also irrelevant to the § 101 analysis because they, too, are governed by other provisions of the Patent Act. Section 101 does, however, allow for patents only on useful inventions. *Brenner v. Manson*, 383 U.S. 519, 532-35, 86 S. Ct. 1033, 16 L. Ed. 2d 69, 1966 Dec. Comm'r Pat. 74 (1966).

Second, the Court has made clear that it is inappropriate to determine the patent-eligibility of a claim as a whole based on whether selected limitations constitute patent-eligible subject matter. *Flook*, 437 U.S. at 594 ("Our approach to respondent's application is, however, not at all inconsistent with the view that a patent claim must be considered as a whole."); *Diehr*, 450 U.S. at 188 ("It is inappropriate to dissect the claims into old and new elements and then to ignore the presence of the old elements in the analysis."). After all, even though a fundamental principle itself is not patent-eligible, processes incorporating a fundamental principle may be patent-eligible. Thus, it is irrelevant that any individual step or limitation of such processes by itself would be unpatentable under § 101. See *In re Alappat*, 33 F.3d 1526, 1543-44 (Fed. Cir. 1994) (en banc) (citing *Diehr*, 450 U.S. at 187).

### III.

In the years following the Supreme Court's [\*\*37] decisions in *Benson*, *Flook*, and *Diehr*, our predecessor court and this court have reviewed numerous cases presenting a wide variety of process claims, some in technology areas unimaginable when those seminal Supreme Court cases were heard.<sup>16</sup> Looking to these precedents, we find a wealth of detailed guidance and helpful examples on how to determine the patent-eligibility of process claims.

16 We note that the PTO, too, has been active in analyzing § 101 law. See, e.g., *Ex parte Lundgren*, 76 USPQ2d 1385 (B.P.A.I. 2004); Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility, Off. Gaz. Pat. & Trademark Office, Nov. 22, 2005.

### A.

Before we turn to our precedents, however, we first address the issue of whether several other purported articulations of § 101 tests are valid and useful. The first of these is known as the Freeman-Walter-Abele test after the three decisions [\*\*959] of our predecessor court that formulated and then refined the test: *In re Freeman*, 573 F.2d 1237 (CCPA 1978); *In re Walter*, 618 F.2d 758 (CCPA 1980); and *In re Abele*, 684 F.2d 902 (CCPA 1982). This test, in its final form, had two steps: (1) determining whether the claim recites an "algorithm" [\*\*38] within the meaning of *Benson*, then (2) determining whether that algorithm is "applied in any manner to physical elements or process steps." *Abele*, 684 F.2d at 905-07.

Some may question the continued viability of this test, arguing that it appears to conflict with the Supreme Court's proscription against dissecting a claim and evaluating patent-eligibility on the basis of individual limitations. See *Flook*, 437 U.S. at 594 (requiring analysis of claim as a whole in § 101 analysis); see also *AT&T*, 172 F.3d at 1359; *State St.*, 149 F.3d at 1374. In light of the present opinion, we conclude that the Freeman-Walter-Abele test is inadequate. Indeed, we have already recognized that a claim failing that test may nonetheless be patent-eligible. See *In re Grams*, 888 F.2d 835, 838-39 (Fed. Cir. 1989). Rather, the machine-or-transformation test is the applicable test for patent-eligible subject matter.<sup>17</sup>

17 Therefore, in *Abele*, *Meyer*, *Grams*, *Arrhythmia Research Technology, Inc. v. Corazonix Corp.*, 958 F.2d 1053 (Fed. Cir. 1992), and other decisions, those portions relying solely on the Freeman-Walter-Abele test should no longer be relied on.

The second articulation we now revisit is the "useful, concrete, [\*\*39] and tangible result" language associated with *State Street*, although first set forth in *Alappat*. *Alappat*, *State St.*, 149 F.3d at 1373 ("Today, we hold that the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a [patent-eligible invention] because it produces 'a useful, concrete and tangible result' . . .");<sup>18</sup> *Alappat*, 33 F.3d at 1544 ("This is not a disembodied mathematical concept which may be characterized as an 'abstract idea,' but rather a specific machine to produce a

useful, concrete, and tangible result."); see also *AT&T*, 172 F.3d at 1357 ("Because the claimed process applies the Boolean principle to produce a useful, concrete, tangible result without pre-empting other uses of the mathematical principle, on its face the claimed process comfortably falls within the scope of § 101."). The basis for this language in *State Street* and *Alappat* was that the Supreme Court has explained that "certain types of mathematical subject matter, standing alone, represent nothing more than abstract ideas until reduced to some type of practical application." *Alappat*, 33 F.3d at 1543; see also [\*\*40] *State St.*, 149 F.3d at 1373. To be sure, a process tied to a particular machine, or transforming or reducing a particular article into a different state or thing, will generally produce a "concrete" and "tangible" result as those terms were used in our prior decisions. But while looking for "a useful, concrete and tangible result" may in many instances provide useful indications of whether a claim is drawn to a fundamental principle or a practical application of such a principle, that inquiry is insufficient to determine whether a claim is patent-eligible under § 101. And it was certainly never intended to supplant the Supreme Court's test. Therefore, we also conclude that the "useful, concrete and tangible result" inquiry [\*960] is inadequate and reaffirm that the machine-or-transformation test outlined by the Supreme Court is the proper test to apply.<sup>19</sup>

18 In *State Street*, as is often forgotten, we addressed a claim drawn not to a process but to a machine. 149 F.3d at 1371-72 (holding that the means-plus-function elements of the claims on appeal all corresponded to supporting structures disclosed in the written description).

19 As a result, those portions of our opinions in *State Street* and [\*\*41] *AT&T* relying solely on a "useful, concrete and tangible result" analysis should no longer be relied on.

We next turn to the so-called "technological arts test" that some amici<sup>20</sup> urge us to adopt. We perceive that the contours of such a test, however, would be unclear because the meanings of the terms "technological arts" and "technology" are both ambiguous and ever-changing. 21 And no such test has ever been explicitly adopted by the Supreme Court, this court, or our predecessor court, as the Board correctly observed here. Therefore, we decline to do so and continue to rely on the machine-or-transformation test as articulated by the Supreme Court.

20 See, e.g., *Br. of Amicus Curiae Consumers Union et al.* at 6-10; *Br. of Amicus Curiae William Mitchell Coll. of Law Intellectual Prop. Inst.* at 14-15.

21 Compare Appellee's *Br.* at 24-28 (arguing that patents should be reserved only for "technological" inventions that "involve[] the application of science or mathematics," thereby excluding "non-technological inventions" such as "activities whose ability to achieve their claimed goals depended solely on contract formation"), with *Br. of Amicus Curiae Regulatory Datacorp, Inc.* at 19-24 (arguing [\*\*42] that "innovations in business, finance, and other applied economic fields plainly qualify as 'technological'" since "a fair definition of technological is 'characterized by the practical application of knowledge in a particular field'" and because modern economics has "a closer affinity to physics and engineering than to liberal arts like English literature").

We further reject calls for categorical exclusions beyond those for fundamental principles already identified by the Supreme Court.<sup>22</sup> We rejected just such an exclusion in *State Street*, noting that the so-called "business method exception" was unlawful and that business method claims (and indeed all process claims) are "subject to the same legal requirements for patentability as applied to any other process or method." 149 F.3d at 1375-76. We reaffirm this conclusion.<sup>23</sup>

22 See, e.g., *Br. of Amicus Curiae Fin. Servs. Indus.* at 20 ("[E]xtending patent protection to pure methods of doing business . . . is contrary to the constitutional and statutory basis for granting patent monopolies . . .").

23 Therefore, although invited to do so by several amici, we decline to adopt a broad exclusion over software or any other such category [\*\*43] of subject matter beyond the exclusion of claims drawn to fundamental principles set forth by the Supreme Court. See, e.g., *Br. of Amicus Curiae End Software Patents*; *Br. of Amicus Curiae Red Hat, Inc.* at 4-7. We also note that the process claim at issue in this appeal is not, in any event, a software claim. Thus, the facts here would be largely unhelpful in illuminating the distinctions between those software claims that are patent-eligible and those that are not.

Lastly, we address a possible misunderstanding of our decision in *Comiskey*. Some may suggest that *Comiskey* implicitly applied a new § 101 test that bars any claim reciting a mental process that lacks significant "physical steps." We did not so hold, nor did we announce any new test at all in *Comiskey*. Rather, we simply recognized that the Supreme Court has held that mental processes, like fundamental principles, are excluded by § 101 because "[p]henomena of nature, though just discovered, mental processes, and abstract intellectual concepts . . . are the basic tools of scientific and technological work." *Comiskey*, 499 F.3d at 1377 (quoting *Benson*, 409 U.S. at 67) (emphasis added). And we actually applied the machine-or-transformation [\*\*44] test to determine whether various claims at issue were [\*\*961] drawn to patent-eligible subject matter. <sup>24</sup> *Id.* at 1379 ("Comiskey has conceded that these claims do not require a machine, and these claims evidently do not describe a process of manufacture or a process for the alteration of a composition of matter."). Because those claims failed the machine-or-transformation test, we held that they were drawn solely to a fundamental principle, the mental process of arbitrating a dispute, and were thus not patent-eligible under § 101. *Id.*

<sup>24</sup> Our statement in *Comiskey* that "a claim reciting an algorithm or abstract idea can state statutory subject matter only if, as employed in the process, it is embodied in, operates on, transforms, or otherwise involves another class of statutory subject matter, i.e., a machine, manufacture, or composition of matter," 499 F.3d at 1376, was simply a summarization of the Supreme Court's machine-or-transformation test and should not be understood as altering that test.

Further, not only did we not rely on a "physical steps" test in *Comiskey*, but we have criticized such an approach to the § 101 analysis in earlier decisions. In *AT&T*, we rejected a "physical limitations" [\*\*45] test and noted that "the mere fact that a claimed invention involves inputting numbers, calculating numbers, outputting numbers, and storing numbers, in and of itself, would not render it nonstatutory subject matter." 172 F.3d at 1359 (quoting *State St.*, 149 F.3d at 1374). The same reasoning applies when the claim at issue recites fundamental principles other than mathematical algorithms. Thus, the proper inquiry under § 101 is not whether the process claim recites sufficient "physical steps," but rather whether the claim meets the

machine-or-transformation test. <sup>25</sup> As a result, even a claim that recites "physical steps" but neither recites a particular machine or apparatus, nor transforms any article into a different state or thing, is not drawn to patent-eligible subject matter. Conversely, a claim that purportedly lacks any "physical steps" but is still tied to a machine or achieves an eligible transformation passes muster under § 101. <sup>26</sup>

<sup>25</sup> Thus, it is simply inapposite to the § 101 analysis whether process steps performed by software on a computer are sufficiently "physical."

<sup>26</sup> Of course, a claimed process wherein all of the process steps may be performed entirely in the human mind [\*\*46] is obviously not tied to any machine and does not transform any article into a different state or thing. As a result, it would not be patent-eligible under § 101.

#### B.

With these preliminary issues resolved, we now turn to how our case law elaborates on the § 101 analysis set forth by the Supreme Court. To the extent that some of the reasoning in these decisions relied on considerations or tests, such as "useful, concrete and tangible result," that are no longer valid as explained above, those aspects of the decisions should no longer be relied on. Thus, we reexamine the facts of certain cases under the correct test to glean greater guidance as to how to perform the § 101 analysis using the machine-or-transformation test.

The machine-or-transformation test is a two-branched inquiry; an applicant may show that a process claim satisfies § 101 either by showing that his claim is tied to a particular machine, or by showing that his claim transforms an article. See *Benson*, 409 U.S. at 70. Certain considerations are applicable to analysis under either branch. First, as illustrated by *Benson* and discussed below, the use of a specific machine or transformation of an article must impose meaningful [\*\*47] limits on the claim's scope to impart patent-eligibility. See *Benson*, 409 U.S. at [\*\*962] 71-72. Second, the involvement of the machine or transformation in the claimed process must not merely be insignificant extra-solution activity. See *Flook*, 437 U.S. at 590.

As to machine implementation, Applicants themselves admit that the language of claim 1 does not

limit any process step to any specific machine or apparatus. See Appellants' Br. at 11. As a result, issues specific to the machine implementation part of the test are not before us today. We leave to future cases the elaboration of the precise contours of machine implementation, as well as the answers to particular questions, such as whether or when recitation of a computer suffices to tie a process claim to a particular machine.

We will, however, consider some of our past cases to gain insight into the transformation part of the test. A claimed process is patent-eligible if it transforms an article into a different state or thing. This transformation must be central to the purpose of the claimed process. But the main aspect of the transformation test that requires clarification here is what sorts of things constitute "articles" such that [\*\*48] their transformation is sufficient to impart patent-eligibility under § 101. It is virtually self-evident that a process for a chemical or physical transformation of physical objects or substances is patent-eligible subject matter. As the Supreme Court stated in *Benson*:

[T]he arts of tanning, dyeing, making waterproof cloth, vulcanizing India rubber, smelting ores . . . are instances, however, where the use of chemical substances or physical acts, such as temperature control, changes articles or materials. The chemical process or the physical acts which transform the raw material are, however, sufficiently definite to confine the patent monopoly within rather definite bounds.

409 U.S. at 70 (quoting *Corning v. Burden*, 56 U.S. (15 How.) 252, 267-68, 14 L. Ed. 683 (1854)); see also *Diehr*, 450 U.S. at 184 (process of curing rubber); *Tilghman*, 102 U.S. at 729 (process of reducing fats into constituent acids and glycerine).

The raw materials of many information-age processes, however, are electronic signals and electronically-manipulated data. And some so-called business methods, such as that claimed in the present case, involve the manipulation of even more abstract constructs such as legal obligations, [\*\*49] organizational relationships, and business risks. Which, if any, of these processes qualify as a transformation or

reduction of an article into a different state or thing constituting patent-eligible subject matter?

Our case law has taken a measured approach to this question, and we see no reason here to expand the boundaries of what constitutes patent-eligible transformations of articles.

Our predecessor court's mixed result in *Abele* illustrates this point. There, we held unpatentable a broad independent claim reciting a process of graphically displaying variances of data from average values. *Abele*, 684 F.2d at 909. That claim did not specify any particular type or nature of data; nor did it specify how or from where the data was obtained or what the data represented. *Id.*; see also *In re Meyer*, 688 F.2d 789, 792-93 (CCPA 1982) (process claim involving undefined "complex system" and indeterminate "factors" drawn from unspecified "testing" not patent-eligible). In contrast, we held one of *Abele*'s dependent claims to be drawn to patent-eligible subject matter where it specified that "said data is X-ray attenuation data produced in a two dimensional field by a computed tomography scanner." [\*\*50] *Abele*, 684 F.2d at 908-09. This data [\*963] clearly represented physical and tangible objects, namely the structure of bones, organs, and other body tissues. Thus, the transformation of that raw data into a particular visual depiction of a physical object on a display was sufficient to render that more narrowly-claimed process patent-eligible.

We further note for clarity that the electronic transformation of the data itself into a visual depiction in *Abele* was sufficient; the claim was not required to involve any transformation of the underlying physical object that the data represented. We believe this is faithful to the concern the Supreme Court articulated as the basis for the machine-or-transformation test, namely the prevention of pre-emption of fundamental principles. So long as the claimed process is limited to a practical application of a fundamental principle to transform specific data, and the claim is limited to a visual depiction that represents specific physical objects or substances, there is no danger that the scope of the claim would wholly pre-empt all uses of the principle.

This court and our predecessor court have frequently stated that adding a data-gathering step to an [\*\*51] algorithm is insufficient to convert that algorithm into a patent-eligible process. E.g., *Grams*, 888 F.2d at 840 (step of "deriv[ing] data for the algorithm will not render



the claim statutory"); Meyer, 688 F.2d at 794 ("[data-gathering] step[s] cannot make an otherwise nonstatutory claim statutory"). For example, in *Grams* we held unpatentable a process of performing a clinical test and, based on the data from that test, determining if an abnormality existed and possible causes of any abnormality. 888 F.2d at 837, 841. We rejected the claim because it was merely an algorithm combined with a data-gathering step. *Id.* at 839-41. We note that, at least in most cases, gathering data would not constitute a transformation of any article. A requirement simply that data inputs be gathered--without specifying how--is a meaningless limit on a claim to an algorithm because every algorithm inherently requires the gathering of data inputs. *Grams*, 888 F.2d at 839-40. Further, the inherent step of gathering data can also fairly be characterized as insignificant extra-solution activity. See *Flook*, 437 U.S. at 590.

Similarly, *In re Schrader* presented claims directed to a method of conducting an auction [\*52] of multiple items in which the winning bids were selected in a manner that maximized the total price of all the items (rather than to the highest individual bid for each item separately). 22 F.3d 290, 291 (Fed. Cir. 1994). We held the claims to be drawn to unpatentable subject matter, namely a mathematical optimization algorithm. *Id.* at 293-94. No specific machine or apparatus was recited. The claimed method did require a step of recording the bids on each item, though no particular manner of recording (e.g., on paper, on a computer) was specified. *Id.* But, relying on *Flook*, we held that this step constituted insignificant extra-solution activity. *Id.* at 294.

#### IV.

We now turn to the facts of this case. As outlined above, the operative question before this court is whether Applicants' claim 1 satisfies the transformation branch of the machine-or-transformation test.

We hold that the Applicants' process as claimed does not transform any article to a different state or thing. Purported transformations or manipulations simply of public or private legal obligations or relationships, business risks, or other such abstractions cannot meet the test because they are not physical objects or substances, [\*53] and they are not representative of physical objects or substances. Applicants' [\*964] process at most incorporates only such ineligible transformations. See

Appellants' Br. at 11 ("[The claimed process] transforms the relationships between the commodity provider, the consumers and market participants ") As discussed earlier, the process as claimed encompasses the exchange of only options, which are simply legal rights to purchase some commodity at a given price in a given time period. See J.A. at 86-87. The claim only refers to "transactions" involving the exchange of these legal rights at a "fixed rate corresponding to a risk position." See '892 application cl.1. Thus, claim 1 does not involve the transformation of any physical object or substance, or an electronic signal representative of any physical object or substance. Given its admitted failure to meet the machine implementation part of the test as well, the claim entirely fails the machine-or-transformation test and is not drawn to patent-eligible subject matter.

Applicants' arguments are unavailing because they rely on incorrect or insufficient considerations and do not address their claim's failure to meet the requirements of the [\*54] Supreme Court's machine-or-transformation test. First, they argue that claim 1 produces "useful, concrete and tangible results." But as already discussed, this is insufficient to establish patent-eligibility under § 101. Applicants also argue that their claimed process does not comprise only "steps that are totally or substantially practiced in the mind but clearly require physical activity which have [sic] a tangible result." Appellants' Br. at 9. But as previously discussed, the correct analysis is whether the claim meets the machine-or-transformation test, not whether it recites "physical steps." Even if it is true that Applicant's claim "can only be practiced by a series of physical acts" as they argue, see *id.* at 9, its clear failure to satisfy the machine-or-transformation test is fatal. Thus, while we agree with Applicants that the only limit to patent-eligibility imposed by Congress is that the invention fall within one of the four categories enumerated in § 101, we must apply the Supreme Court's test to determine whether a claim to a process is drawn to a statutory "process" within the meaning of § 101. Applied here, Applicants' claim fails that test so it is not drawn to [\*55] a "process" under § 101 as that term has been interpreted.

On the other hand, while we agree with the PTO that the machine-or-transformation test is the correct test to apply in determining whether a process claim is patent-eligible under § 101, we do not agree, as discussed earlier, that this amounts to a "technological arts" test.

See Appellee's Br. at 24-28. Neither the PTO nor the courts may pay short shrift to the machine-or-transformation test by using purported equivalents or shortcuts such as a "technological arts" requirement. Rather, the machine-or-transformation test is the only applicable test and must be applied, in light of the guidance provided by the Supreme Court and this court, when evaluating the patent-eligibility of process claims. When we do so here, however, we must conclude, as the PTO did, that Applicants' claim fails the test.

Applicants' claim is similar to the claims we held unpatentable under § 101 in *Comiskey*. There, the applicant claimed a process for mandatory arbitration of disputes regarding unilateral documents and bilateral "contractual" documents in which arbitration was required by the language of the document, a dispute regarding the document was [\*\*56] arbitrated, and a binding decision resulted from the arbitration. *Comiskey*, 499 F.3d at 1368-69. We held the broadest process claims unpatentable under § 101 because "these claims do not require a machine, and these claims evidently do not describe a process of manufacture [\*965] or a process for the alteration of a composition of matter." *Id.* at 1379. We concluded that the claims were instead drawn to the "mental process" of arbitrating disputes, and that claims to such an "application of [only] human intelligence to the solution of practical problems" is no more than a claim to a fundamental principle. *Id.* at 1377-79 (quoting *Benson*, 409 U.S. at 67 ("[M]ental processes, and abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work.")).

Just as the *Comiskey* claims as a whole were directed to the mental process of arbitrating a dispute to decide its resolution, the claimed process here as a whole is directed to the mental and mathematical process of identifying transactions that would hedge risk. The fact that the claim requires the identified transactions actually to be made does no more to alter the character of the claim as a whole [\*\*57] than the fact that the claims in *Comiskey* required a decision to actually be rendered in the arbitration--i.e., in neither case do the claims require the use of any particular machine or achieve any eligible transformation.

We have in fact consistently rejected claims like those in the present appeal and in *Comiskey*. For example, in *Meyer*, the applicant sought to patent a method of diagnosing the location of a malfunction in an

unspecified multi-component system that assigned a numerical value, a "factor," to each component and updated that value based on diagnostic tests of each component. 688 F.2d at 792-93. The locations of any malfunctions could thus be deduced from reviewing these "factors." The diagnostic tests were not identified, and the "factors" were not tied to any particular measurement; indeed they could be arbitrary. *Id.* at 790. We held that the claim was effectively drawn only to "a mathematical algorithm representing a mental process," and we affirmed the PTO's rejection on § 101 grounds. *Id.* at 796. No machine was recited in the claim, and the only potential "transformation" was of the disembodied "factors" from one number to another. Thus, the claim effectively sought [\*\*58] to pre-empt the fundamental mental process of diagnosing the location of a malfunction in a system by noticing that the condition of a particular component had changed. And as discussed earlier, a similar claim was rejected in *Grams*.<sup>27</sup> See 888 F.2d at 839-40 (rejecting claim to process of diagnosing "abnormal condition" in person by identifying and noticing discrepancies in results of unspecified clinical tests of different parts of body).

<sup>27</sup> We note that several Justices of the Supreme Court, in a dissent to a dismissal of a writ of certiorari, expressed their view that a similar claim in *Laboratory Corp. of America Holdings v. Metabolite Laboratories, Inc.* was drawn to unpatentable subject matter. 548 U.S. 124, 126 S. Ct. 2921, 2927-28, 165 L. Ed. 2d 399 (2006) (Breyer, J., dissenting; joined by Stevens, J., and Souter, J.). There, the claimed process only comprised the steps of: (1) "assaying a body fluid for an elevated level of total homocysteine," and (2) "correlating an elevated level of total homocysteine in said body fluid with a deficiency of cobalamin or folate." *Id.* at 2924.

Similarly to the situations in *Meyer* and *Grams*, Applicants here seek to claim a non-transformative process that encompasses a purely [\*\*59] mental process of performing requisite mathematical calculations without the aid of a computer or any other device, mentally identifying those transactions that the calculations have revealed would hedge each other's risks, and performing the post-solution step of consummating those transactions. Therefore, claim 1 would effectively pre-empt any application of the fundamental concept of hedging and mathematical

calculations inherent [\*966] in hedging (not even limited to any particular mathematical formula). And while Applicants argue that the scope of this pre-emption is limited to hedging as applied in the area of consumable commodities, the Supreme Court's reasoning has made clear that effective pre-emption of all applications of hedging even just within the area of consumable commodities is impermissible. See *Diehr*, 450 U.S. at 191-92 (holding that field-of-use limitations are insufficient to impart patent-eligibility to otherwise unpatentable claims drawn to fundamental principles). Moreover, while the claimed process contains physical steps (initiating, identifying), it does not involve transforming an article into a different state or thing. Therefore, Applicants' claim is not drawn [\*\*60] to patent-eligible subject matter under § 101.

#### CONCLUSION

Because the applicable test to determine whether a claim is drawn to a patent-eligible process under § 101 is the machine-or-transformation test set forth by the Supreme Court and clarified herein, and Applicants' claim here plainly fails that test, the decision of the Board is

AFFIRMED.

**CONCUR BY: DYK**

**CONCUR**

DYK, Circuit Judge, with whom LINN, Circuit Judge, joins, concurring.

While I fully join the majority opinion, I write separately to respond to the claim in the two dissents that the majority's opinion is not grounded in the statute, but rather "usurps the legislative role."<sup>1</sup> In fact, the unpatentability of processes not involving manufactures, machines, or compositions of matter has been firmly embedded in the statute since the time of the Patent Act of 1793, ch. 11, 1 Stat. 318 (1793). It is our dissenting colleagues who would legislate by expanding patentable subject matter far beyond what is allowed by the statute.

<sup>1</sup> The dissents fault the majority for "ventur[ing] away from the statute," Rader, J., dissenting op. at 6, and "usurp[ing] the legislative role," Newman, J., dissenting op. at 41.

I

Section 101 now provides:

Whoever invents or discovers [\*\*61] 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.

35 U.S.C. § 101 (emphases added).

The current version of § 101 can be traced back to the Patent Act of 1793. In relevant part, the 1793 Act stated that a patent may be granted to any person or persons who:

shall allege that he or they have invented any new and useful art, machine, manufacture or composition of matter, or any new and useful improvement on any art, machine, manufacture or composition of matter . . . .

1 Stat. 318, 319 § 1 (1793) (emphases added). The criteria for patentability established by the 1793 Act remained essentially unchanged until 1952, when Congress amended § 101 by replacing the word "art" with "process" and providing in § 100(b) a definition of the term "process." The Supreme Court has made clear that this change did not alter the substantive understanding of the statute; it did not broaden the scope of patentable subject matter.<sup>2</sup> Thus, our interpretation of § 101 [\*967] must begin with a consideration of what the drafters of the early patent statutes understood [\*\*62] the patentability standard to require in 1793. See *Diehr*, 450 U.S. at 182-83 (looking to the 1793 Act).

<sup>2</sup> See *Diamond v. Diehr*, 450 U.S. 175, 182, 101 S. Ct. 1048, 67 L. Ed. 2d 155 (1981) ("[A] process has historically enjoyed patent protection because it was considered a form of 'art' as that term was used in the 1793 Act."); *Diamond v. Chakrabarty*, 447 U.S. 303, 309, 100 S. Ct. 2204, 65 L. Ed. 2d 144 (1980). Rather, the 1952 Act simply affirmed the prior judicial understanding, as set forth in *Corning v. Burden*, 56 U.S. (15 How.) 252, 14 L. Ed. 683 (1853), that Congress in 1793 had provided for the patentability of a

"process" under the term "art." Diehr, 450 U.S. at 182.

A

The patentability criteria of the 1793 Act were to a significant extent the same in the 1790 Act.<sup>3</sup> The 1790 "statute was largely based on and incorporated" features of the English system and reveals a sophisticated knowledge of the English patent law and practice.<sup>4</sup> This is reflected in Senate committee report<sup>5</sup> for the bill that became the 1790 Act, which expressly noted the drafters' reliance on the English practice:

The Bill depending before the House of Representatives for the Promotion of useful Arts is framed according to the Course of Practice in the English Patent Office except in two Instances--

22 J. Pat. Off. Soc'y at 363 [\*\*63] (emphasis added ).<sup>6</sup> Likewise, the legislative history of the 1793 Patent Act reflects the same keen understanding of English patent practice. During a debate in the House over the creation of a Patent Office, for example, the Representative who introduced the bill noted that its principles were "an imitation of the Patent System of Great Britain." 3 Annals of Congress 855 (1793).<sup>7</sup>

3 In relevant part, the 1790 Act permitted patents upon "any useful art, manufacture, engine, machine, or device, or any improvement therein not before known or used." Ch. 11, § 1, 1 Stat. 109, 110 (1790).

4 Edward C. Walterscheid, *To Promote the Progress of Useful Arts: American Patent Law & Administration, 1798-1836* 109 (1998) (hereinafter *To Promote the Progress*); see also Edward C. Walterscheid, *The Early Evolution of the United States Patent Law: Antecedents* (Part 1), 76 J. Pat. & Trademark Off. Soc'y 697, 698 (1994) ("[T]he English common law relating to patents was what was best known in the infant United States.").

5 Senate Committee Report Accompanying Proposed Amendments to H.R. 41, reprinted in *Proceedings in Congress During the Years 1789 & 1790 Relating to the First Patent & Copyright Laws*, 22 J. Pat. Off. Soc'y 352, 363 (1940).

6 Neither [\*\*64] of those two instances related

to patentable subject matter or was adopted in the enacted statute. The first proposed departure from the English practice was a novelty provision protecting the inventor against those who derived their knowledge of the invention from the true inventor; the second was in a requirement that patentees make a "Public Advertisement" of their invention. Such a requirement was thought necessary "in so extensive a Country as the United States." Senate Report, reprinted in 22 J. Pat. Off. Soc'y at 363-64.

The American statute ultimately differed in some other respects. For example, Congress rejected the English rule that the invention need only be novel in England. The American statute required novelty against the whole world and did not permit "patents of importation." See *To Promote the Progress*, supra n.4 at 95-97, 137-38.

7 Even the opposing view--urging departure from the English practice in particular respects--recognized that the English practice provided considerable guidance. See 3 Annals of Congress at 855-56 ("[Great Britain] had afforded, it was true, much experience on the subject; but regulations adopted there would not exactly comport in all respects [\*\*65] either with the situation of this country, or with the rights of the citizen here. The minds of some members had taken a wrong direction, he conceived, from the view in which they had taken up the subject under its analogy with the doctrine of patents in England."); see also *To Promote the Progress*, supra n.4 at 216-17.

[\*968] Later, Justice Story, writing for the Supreme Court, recognized the profound influence of the English practice on these early patent laws, which in many respects codified the common law:

It is obvious to the careful inquirer, that many of the provisions of our patent act are derived from the principles and practice which have prevailed in the construction of that of England. . . . The language of [the patent clause of the Statute of Monopolies] is not, as we shall presently see, identical with ours; but the construction of it adopted by the English courts, and the principles and practice

which have long regulated the grants of their patents, as they must have been known and are tacitly referred to in some of the provisions of our own statute, afford materials to illustrate it.

*Pennock v. Dialogue*, 27 U.S. 1, 18, 7 L. Ed. 327 (1829) (emphases added); see also *Graham v. John Deere Co.*, 383 U.S. 1, 5, 86 S. Ct. 684, 15 L. Ed. 2d 545 (1966) [\*66] (noting that first patent statute was written against the "backdrop" of English monopoly practices); *Sears, Roebuck & Co. v. Stiffel Co.*, 376 U.S. 225, 230 n.6, 84 S. Ct. 784, 11 L. Ed. 2d 661, 1964 Dec. Comm'r Pat. 425 (1964) ("Much American patent law derives from English patent law.").

While Congress departed from the English practice in certain limited respects, in many respects Congress simply adopted the English practice without change. Both the 1790 and the 1793 Acts, for example, adopted the same 14-year patent term as in England. Both also required inventors to file a written specification--a requirement recognized by the English common law courts in the mid-eighteenth century.<sup>8</sup> In addition, as discussed below, the categories of patentable subject matter closely tracked the English approach, and in certain respects reflected a deliberate choice between competing views prevalent in England at the time.

<sup>8</sup> See Christine MacLeod, *Inventing the Industrial Revolution: The English Patent System, 1660-1800* 48-49 (2002); *To Promote the Progress*, supra n.4 at 400, 404.

## B

The English practice in 1793, imported into the American statutes, explicitly recognized a limit on patentable subject matter. As the Supreme Court recounted in *Graham v. John Deere*, [\*67] the English concern about limiting the allowable scope of patents arose from an aversion to the odious Crown practice of granting patents on particular types of businesses to court favorites. 383 U.S. 1, 5, 86 S. Ct. 684, 15 L. Ed. 2d 545 (1966); see also MacLeod, supra n.8 at 15 ("But most offensive of all was the granting of monopoly powers in established industries, as a form of patronage, to courtiers whom the crown could not otherwise afford to reward."). Parliament responded to the Crown's abuses in 1623 by passing the Statute of Monopolies, prohibiting the Crown from granting these despised industry-type monopolies.

Not all monopolies were prohibited, however: the Statute expressly exempted invention-type patent monopolies. Section 6 of the Statute exempted from its prohibitions "letters patent and grants of privilege for the term of fourteen years or under, hereafter to be made, of the sole working or making of any manner of new manufactures within this realm, to the true and first inventor and inventors of such manufactures . . . ." 21 Jac. 1. c.3, s.6 (emphases added).

Each of the five categories of patentable subject matter recognized by the 1793 Patent Act--(1) "manufacture," (2) "machine," (3) "composition [\*68] of matter," (4) "any new and useful improvement," and (5) "art"--[\*969] was drawn either from the Statute of Monopolies and the common law refinement of its interpretation or resolved competing views being debated in England at the time. See *To Promote the Progress*, supra n.4 at 239.

"Manufacture." At the most basic level, the 1793 Act, like the Statute of Monopolies, expressly provided for the patentability of "manufactures." This language was not accidental, but rather reflected a conscious adoption of that term as it was used in the English practice. *Id.* ("It is clear that the Congress sought to incorporate into the U.S. statutory scheme in 1793 at least as much of the common law interpretation of 'new manufactures' as was understood at the time.").

"Machine." Likewise, the category of "machines" in the 1793 Act had long been understood to be within the term "manufactures" as used in the English statute. See *id.*; see, e.g., *Morris v. Bramson*, 1 Carp. P.C. 30, 31 (K.B. 1776) (sustaining a patent "for an engine or machine on which is fixed a set of working needles. . . for the making of eyelet-holes") (emphasis added); MacLeod, supra n.8 at 101 (noting, among numerous other early machine patents, [\*69] seven patents on "machinery to raise coal and ores" before 1750).

"Composition of Matter." Although the 1790 statute did not explicitly include "compositions of matter," this was remedied in the 1793 statute. At the time, "compositions of matter" were already understood to be a type of manufacture patentable under the English statute. See *To Promote the Progress*, supra n.4, at 224 n.4. One example is found in *Liardet v. Johnson*, 1 Carp. P.C. 35 (K.B. 1778), a case involving a patent on a "composition" of stucco (a composition of matter). Lord Mansfield's jury instructions noted that by the time of that trial he had

decided "several cases" involving compositions: "But if . . . the specification of the composition gives no proportions, there is an end of his patent. . . . I have determined, [in] several cases here, the specification must state, where there is a composition, the proportions . . . ."

9

9 Edward C. Walterscheid, *The Nature of the Intellectual Property Clause: A Study in Historical Perspective* 55 (2002) (quoting E. Wyndham Hulme, *On the History of the Patent Laws in the Seventeenth and Eighteenth Centuries*, 18 L.Q. Rev. 280, 285 (1902)).

"Any new and useful improvement." The [\*\*70] reference to "any new and useful improvement" in the 1793 Act also adopted a consensus recently reached by the English courts. The common law courts had first ruled in *Bircot's Case* in the early seventeenth century that an improvement to an existing machine could not be the proper subject of a patent under the Statute of Monopolies. See *Boulton v. Bull*, 2 H. Bl. 463, 488 (C.P. 1795). In 1776 that line of cases was overruled in *Morris v. Bramson*, because such a reading of the statute "would go to repeal almost every patent that was ever granted."

10

10 *Morris*, 1 Carp. P.C. at 34; see also *Boulton*, 2 H.Bl. at 489 ("Since [*Morris v. Bramson*], it has been the generally received opinion in Westminster Hall, that a patent for an addition is good.").

"Art." As the Supreme Court has recognized, a process "was considered a form of 'art' as that term was used in the 1793 Act." *Diehr*, 450 U.S. at 182 (citing *Corning v. Burden*, 56 U.S. at 267-268). The language of the Statute of Monopolies permitted patents on that which could be characterized as the "working or making of any manner of new manufactures within this realm." 21 Jac. 1. c.3, s.6. While this language plainly applied to tangible "new [\*\*71] manufactures" (such as machines or compositions of matter), it [\*\*970] also appeared to allow patenting of manufacturing processes as the "working or making of any manner of new manufactures." Thus, under the Statute of Monopolies patents could be had on the "working or making of any manner of new manufactures." Numerous method patents had issued by 1793, including James Watt's famous 1769 patent on a "[m]ethod of diminishing the consumption of fuel in [steam]-engines." <sup>11</sup> However, the English courts

in the mid-eighteenth century had not yet resolved whether processes for manufacturing were themselves patentable under the statute, and as discussed below, the issue was being actively litigated in the English courts. In the 1793 Act Congress resolved this question by including the term "art" in the statute, adopting the practice of the English law officers and the views of those in England who favored process patents.

11 Walterscheid, *supra* n.9 at 355-56 (emphasis added); see also *Boulton*, 2 H. Bl. at 494-95 (1795) (noting that many method patents had issued).

## II

The question remains as to what processes were considered to be patentable in England at the time of the 1793 Act. Examination of the [\*\*72] relevant sources leads to the conclusion that the method *Bilski* seeks to claim would not have been considered patentable subject matter as a process under the English statute.

## A

First, the language of the Statute of Monopolies--"working or making of any manner of new manufactures"--suggests that only processes that related to "manufactures" (including machines or compositions of matter) could be patented.

Second, the English patent practice before and contemporaneous with the 1793 Act confirms the notion that patentable subject matter was limited by the term "manufacture" in the Statute of Monopolies and required a relation to the other categories of patentable subject matter. The organization of human activity was not within its bounds. Rather, the patents registered in England under the Statute of Monopolies before 1793 were limited to articles of manufacture, machines for manufacturing, compositions of matter, and related processes. A complete list of such patents (with a few missing patents from the 17th century) was published in the mid-1800s by Bennet Woodcroft, the first head of the English Patent Office. <sup>12</sup> Representative examples of patented processes at the time include: "Method [\*\*73] of making a more easy and perfect division in stocking frame-work manufactures," No. 1417 to John Webb (1784); "Making and preparing potashes and pearl-ashes of materials not before used for the purpose," No. 1223 to Richard Shannon (1779); "Making salt from sea-water or

brine, by steam," No. 1006 to Daniel Scott (1772); "Milling raw hides and skins so as to be equally good for leather as if tanned," No. 893 to George Merchant (1768); "Making salt, and removing the corrosive nature of the same, by a separate preparation of the brine," No. 416 to George Campbell (1717); and "Making good and merchantable tough iron . . . with one-fifth of the expense of charcoal as now used," No. 113 to Sir Phillibert Vernatt (1637).

12 Bennet Woodcroft, *Alphabetical Index of Patentees of Inventions*, from March 2, 1617 (14 James I) to October 1, 1852 (16 Victoriae) (2d ed. 1857)).

Nothing in Woodcroft's list suggests that any of these hundreds of patents was on a method for organizing human activity, save for one aberrational patent discussed [\*971] below. Rather, the established practice reflects the understanding that only processes related to manufacturing or "manufactures" were within the statute. The English [\*74] cases before 1793 recognized that the practice followed in issuing patents was directly relevant to the construction of the statute. See, e.g., *Morris*, 1 Carp. P.C. at 34 (declining to read the statute in such a way that "would go to repeal almost every patent that was ever granted").

Third, nearly contemporaneous English cases following shortly after the 1793 Act lend further insight into what processes were thought to be patentable under the English practice at the time the statute was enacted. Although the issue of the validity of process patents had not conclusively been settled in the English common law before 1793, the question was brought before the courts in the landmark case of *Boulton v. Bull*, 2 H. Bl. 463, 465 (C.P. 1795), which involved James Watt's patent for a "method of lessening the consumption of steam, and consequently fuel in [steam] engines." <sup>13</sup> In 1795, the court rendered a split decision, with two judges on each side. *Boulton*, 2 H. Bl. at 463 (1795). Those who viewed process patents as invalid, as did Justice Buller, urged that a method was merely an unpatentable principle: "A patent must be for some new production from [elements of nature], and not for the elements [\*75] themselves." Id. at 485. He thought "it impossible to support a patent for a method only, without having carried it into effect and produced some new substance." Id. at 486. Justice Health similarly found that the "new invented method for lessening the consumption of steam and fuel in [steam]

engines" (i.e., the Watt patent), being neither "machinery" nor a "substance[]" (such as medicine[]) formed by chemical and other processes," was not within the Statute of Monopolies. Id. at 481-82. In contrast, Lord Chief Justice Eyres, who believed processes had long been a valid subject of patents, urged that "two-thirds, I believe I might say three-fourths, of all patents granted since the statute [of Monopolies] passed, are for methods of operating and of manufacturing . . . ." Id. at 494-95 (emphasis added). He agreed that "[u]ndoubtedly there can be no patent for a mere principle; but for a principle so far embodied and connected with corporeal substances . . . I think there may be a patent." Id. at 495 (emphasis added). Justice Rooke also noted that Watt's method was within the statute because it was connected with machinery: "What method can there be of saving steam or fuel in engines, [\*76] but by some variation in the construction of them?" Id. at 478. The Justices who believed process patents were valid spoke in terms of manufacturing, machines, and compositions of matter, because the processes they believed fell within the statute were processes that "embodied and connected with corporeal substances." Id. at 495.

13 The Supreme Court has in several opinions noted *Boulton v. Bull* in connection with its consideration of English patent practice. See, e.g., *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 381 n.6, 116 S. Ct. 1384, 134 L. Ed. 2d 577 (1996); *Evans v. Eaton*, 20 U.S. (7 Wheat.) 356, 388 n.2, 5 L. Ed. 472-3 (1822).

In 1799, on appeal from another case involving the same Watt patent, the validity of such process patents were upheld. *Hornblower v. Boulton* (K.B. 1799), 8 T.R. 95. There, Chief Justice Lord Kenyon stated that "it evidently appears that the patentee claims a monopoly for an engine or machine, composed of material parts, which are to produce the effect described; and that the mode of producing this is so described, as to enable mechanics to produce it. . . . I have no doubt in saying, that this is a patent for a manufacture, which I [\*972] understand to be something made by the hands of man." Id. at 99. [\*77] Justice Grose agreed, finding that "Mr. Watt had invented a method of lessening the consumption of steam and fuel in [steam] engines", and this was "not a patent for a mere principle, but for the working and making of a new manufacture within the words and meaning of the statute." Id. at 101-02. He further noted, however, that "This method . . . if not effected or accompanied by a

manufacture, I should hardly consider as within the [statute]." *Id.* at 102-03 (emphasis added). Justice Lawrence similarly found such process patents to be permissible: "Engine and method mean the same thing, and may be the subject of a patent. 'Method,' properly speaking, is only placing several things and performing several operations in the most convenient order . . . ." *Id.* at 106.

There is no suggestion in any of this early consideration of process patents that processes for organizing human activity were or ever had been patentable. Rather, the uniform assumption was that the only processes that were patentable were processes for using or creating manufactures, machines, and compositions of matter.

## B

The dissenters here, by implication at least, appear to assume that this consistent English practice should [\*78] somehow be ignored in interpreting the current statute because of technological change.<sup>14</sup> There are several responses to this.

14 See, e.g., Rader, J., dissenting op. at 1 ("[T]his court ties our patent system to dicta from an industrial age decades removed from the bleeding edge."); *id.* ("[T]his court . . . links patent eligibility to the age of iron and steel at a time of subatomic particles and terabytes . . . ."); Newman, J., dissenting op. at 5 ("[T]his court now adopts a redefinition of 'process' in Section 101 that excludes forms of information-based and software-implemented inventions arising from new technological capabilities . . . .").

The first of these is that the Supreme Court has made clear that when Congress intends to codify existing law, as was the case with the 1793 statute, the law must be interpreted in light of the practice at the time of codification. In *Schmuck v. United States*, 489 U.S. 705, 718-19, 109 S. Ct. 1443, 103 L. Ed. 2d 734 (1989), for example, the Court considered the proper interpretation of Rule 31(c) of the Federal Rules of Criminal Procedure. The rule, "which ha[d] not been amended since its adoption in 1944," was a restatement of an 1872 Act "codif[ying] the common law for federal [\*79] criminal trials." Because of this fact, the Court found that the "prevailing practice at the time of the Rule's promulgation informs our understanding of its terms."

*Id.*; see also, e.g., *Eldred v. Ashcroft*, 537 U.S. 186, 200 n.5, 123 S. Ct. 769, 154 L. Ed. 2d 683 (2003) (considering the English practice at the time of the enactment of the 1790 copyright act); *Tome v. United States*, 513 U.S. 150, 159-60, 166, 115 S. Ct. 696, 130 L. Ed. 2d 574 (1995) (looking to practice and noting that "a majority of common-law courts were performing [a task required by the common law] for well over a century" in interpreting a Federal Rule of Evidence that "was intended to carry over the common-law"); *Harper & Row Publishers, Inc. v. Nation Enters.*, 471 U.S. 539, 549-554, 105 S. Ct. 2218, 85 L. Ed. 2d 588 (1985) (relying on the history and practice of copyright fair-use when statutory provision reflected the "intent of Congress to codify the common-law doctrine"); *Sprague v. Ticonic Nat'l Bank*, 307 U.S. 161, 164-65, 59 S. Ct. 777, 83 L. Ed. 1184 (1939) (considering the English practice "which theretofore had been evolved in the English Court of Chancery" at the time of the 1789 Judiciary Act in [\*973] determining availability of costs under equity jurisdiction).

Second, the Supreme Court language upon which the dissents rely<sup>15</sup> offers no warrant [\*80] for rewriting the 1793 Act. To be sure, Congress intended the courts to have some latitude in interpreting § 101 to cover emerging technologies, *Chakrabarty*, 447 U.S. at 316, and the categorical terms chosen are sufficiently broad to encompass a wide range of new technologies. But there is no evidence that Congress intended to confer upon the courts latitude to extend the categories of patentable subject matter in a significant way. To the contrary, the Supreme Court made clear that "Congress has performed its constitutional role in defining patentable subject matter in § 101; we perform ours in construing the language Congress has employed. In so doing, our obligation is to take statutes as we find them, guided, if ambiguity appears, by the legislative history and statutory purpose." *Id.* at 315. In *Benson*, the Court rejected the argument that its decision would "freeze process patents to old technologies, leaving no room for the revelations of the new, onrushing technology." *Gottschalk v. Benson*, 409 U.S. 63, 71, 93 S. Ct. 253, 34 L. Ed. 2d 273 (1972). Instead, the Court explained that it "may be that the patent laws should be extended to cover [such onrushing technology], a policy matter to which we are not competent [\*81] to speak" but that "considered action by the Congress is needed." *Id.* at 72-73.

15 See, e.g., Newman, J., dissenting op. at 10



545 F.3d 943, \*973; 2008 U.S. App. LEXIS 22479, \*\*81;  
2008-2 U.S. Tax Cas. (CCH) P50,621

("[C]ourts should not read into the patent laws limitations and conditions which the legislature has not expressed." (quoting Diehr, 450 U.S. at 182)); Rader, J., dissenting op. at 3 (same).

Third, we are not dealing here with a type of subject matter unknown in 1793. One commentator has noted:

The absence of business method patents cannot be explained by an absence of entrepreneurial creativity in Great Britain during the century before the American Revolution. On the contrary, 1720 is widely hailed as the beginning of a new era in English public finance and the beginning of major innovations in business organization.

Malla Pollack, *The Multiple Unconstitutionality of Business Method Patents*, 28 Rutgers Computer & Tech. L.J. 61, 96 (2002) (footnotes omitted).<sup>16</sup> In the hundreds of patents in Woodcroft's exhaustive list of English patents granted from 1612 to 1793, there appears to be only a single patent akin to the type of method Bilski seeks to claim. That sole exception was a patent granted to John Knox in 1778 on a "Plan for assurances on lives of persons [\*\*82] from 10 to 80 years of age." <sup>17</sup> Later commentators have viewed this single patent as clearly contrary to the Statute of Monopolies:

Such protection of an idea should be impossible . . . . It is difficult to understand how Knox's plan for insuring lives could be regarded as 'a new manner of manufacture'; perhaps the Law Officer was in a very good humour that day, or perhaps he had forgotten the wording of the statute; most likely he was concerned only with the promised 'very considerable Consumption of [Revenue] [\*974] Stamps' which, Knox declared, would 'contribute to the increase of the Public Revenues.'

Renn, *supra* n.16 at 285. There is no indication that Knox's patent was ever enforced or its validity tested, or that this example led to other patents or efforts to patent similar activities. But the existence of the Knox patent suggests that as of 1793 the potential advantage of patenting such activities was well-understood.

16 Similarly, another commentator states: "it might be wondered why none of the many ingenious schemes of insurance has ever been protected by patenting it." D.F. Renn, *John Knox's Plan for Insuring Lives: A Patent of Invention in 1778*, 101 J. Inst. Actuaries 285 (1974), [\*\*83] available at [http://www.actuaries.org.uk/\\_data/assets/pdf\\_file/0006/25278/0285-0289.pdf](http://www.actuaries.org.uk/_data/assets/pdf_file/0006/25278/0285-0289.pdf) (last visited Oct. 3, 2008).

17 Woodcroft, *supra* n.12 at 324.

In short, the need to accommodate technological change in no way suggests that the judiciary is charged with rewriting the statute to include methods for organizing human activity that do not involve manufactures, machines, or compositions of matter.

## C

Since the 1793 statute was reenacted in 1952, it is finally important also to inquire whether between 1793 and 1952 the U.S. Patent Office and the courts in this country had departed from the English practice and allowed patents such as those sought by Bilski. In fact, the U.S. Patent Office operating under the 1793 Act hewed closely to the original understanding of the statute. As in the English practice of the time, there is no evidence that patents were granted under the 1793 Act on methods of organizing human activity not involving manufactures, machines or the creation of compositions of matter. The amicus briefs have addressed the early American practice, and some of them claim that human activity patents were allowed in the early period. To the contrary, the patents cited in the briefs [\*\*84] are plainly distinguishable.

The earliest claimed human activity patent cited in the briefs issued in 1840, entitled "Improvement in the Mathematical Operation of Drawing Lottery-Schemes." Br. of Amicus Curiae Regulatory Datacorp 23 n.54. But that patent is fundamentally unlike the Bilski claim, since it does not claim a method of organizing human activity not involving manufactures, machines or the creation of compositions of matter. See U.S. Patent No. 1700 (issued July 18, 1840). Rather, it is directed to a scheme of combining different combinations of numbers onto a large number of physical lottery tickets (i.e., a method for manufacturing lottery tickets). *Id.* col.1. The other early-issued patents cited in the amicus briefs are similarly distinguishable.<sup>18</sup>

18 See, e.g., Complementary Accident Insurance Policy, U.S. Patent No. 389,818 (issued Sept. 18, 1888) (claiming a "complementary insurance policy" as an apparatus consisting of two separate cards secured together); Insurance System, U.S. Patent No. 853,852 (issued May 14, 1907) (claiming a "two-part insurance policy" as "an article of manufacture").

A number of the amici also refer to the discussion and the patents cited in "A [\*\*85] USPTO White Paper" (the "White Paper") to establish the historical foundation of business method patents. See, e.g., Br. of Amicus Curiae Accenture 14-15 n. 11. As Judge Mayer notes, dissenting op. at 7 n.4, the White Paper does not show this proposition. As the White Paper itself recognizes, the early financial patents it discusses were largely mechanical products and methods related to financial paper, not methods for organizing human activity. White Paper at 2. Thus, while the White Paper shows that inventions in the business realm of finance and management historically enjoyed patent protection, it does little to establish that business methods directed to the organization of human activity not involving manufactures, machines or the creation of compositions of matter were similarly patentable.

Likewise, Supreme Court decisions before the 1952 Patent Act assumed that the only processes that were patentable were those involving other types of patentable subject matter. In later cases the Supreme Court has recognized that these cases set forth the standard for process [\*\*975] patents in the pre-1952 period. Diehr, 450 U.S. at 182-84; Gottschalk, 409 U.S. at 69-70. The leading case is *Corning v. Burden*, 56 U.S. 252, 14 L. Ed. 683 (1853). [\*\*86] There, the Supreme Court discussed the patentability of processes:

A process, eo nomine, is not made the subject of a patent in our act of Congress. It is included under the general term 'useful art.' An art may require one or more processes or machines in order to produce a certain result or manufacture. The term machine includes every mechanical device or combination of mechanical powers and devices to perform

some function and produce a certain effect or result. But where the result or effect is produced by chemical action, by the operation or application of some element or power of nature, or of one substance to another, such modes, methods, or operations, are called 'processes.' A new process is usually the result of discovery; a machine, of invention. The arts of tanning, dyeing, making water-proof cloth, vulcanizing India rubber, smelting ores, and numerous others are usually carried on by processes, as distinguished from machines. . . . It is for the discovery or invention of some practicable method or means of producing a beneficial result or effect that a patent is granted, and not for the result or effect itself. It is when the term process is used to represent the means [\*\*87] or method of producing a result that it is patentable, and it will include all methods or means which are not effected by mechanism or mechanical combinations.

Id. at 267-68 (emphases added). In *Cochrane v. Deener*, the Court clarified its understanding of a patentable "process":

That a process may be patentable, irrespective of the particular form of the instrumentalities used, cannot be disputed. . . . A process is a mode of treatment of certain materials to produce a given result. It is an act, or a series of acts, performed upon the subject-matter to be transformed and reduced to a different state or thing. If new and useful, it is just as patentable as is a piece of machinery. In the language of the patent law, it is an art. The machinery pointed out as suitable to perform the process may or may not be new or patentable; whilst the process itself may be altogether new, and produce an entirely new result. The process requires that certain things should be done with certain substances, and in a certain order; but the tools to be used in doing this may be of secondary consequence.

94 U.S. 780, 787-88, 24 L. Ed. 139, 1877 Dec. Comm'r

Pat. 242 (1876) (emphases added). Finally, in *Tilghman v. Proctor*, 102 U.S. 707, 722, 26 L. Ed. 279, 1881 Dec. Comm'r Pat. 163 (1880), [\*\*88] the Court noted:

That a patent can be granted for a process there can be no doubt. The patent law is not confined to new machines and new compositions of matter, but extends to any new and useful art or manufacture. A manufacturing process is clearly an art, within the meaning of the law.

(Emphasis added). The Court's definition of a patentable process was well-accepted and consistently applied by the courts of appeals. See, e.g., *P.E. Sharpless Co. v. Crawford Farms*, 287 F. 655, 658-59, 1923 Dec. Comm'r Pat. 554 (2nd Cir. 1923); *Chicago Sugar-Refining Co. v. Charles Pope Glucose Co.*, 84 F. 977, 982 (7th Cir. 1898).

Finally, nothing in the legislative history of the 1952 Act suggests that Congress intended to enlarge the category of patentable subject matter to include patents such as the method Bilski attempts to claim. As discussed above, the only change made by the 1952 Act was in replacing the word [\*\*976] "art" with the word "process." The Supreme Court has already concluded that this change did not alter the substantive understanding of the statute. See *Diehr*, 450 U.S. at 182 ("[A] process has historically enjoyed patent protection because it was considered a form of 'art' as that term was used in the 1793 Act.").

The [\*\*89] House Report accompanying the 1952 bill includes the now-famous reference to "anything under the sun made by man":

A person may have "invented" a machine or a manufacture, which may include anything under the sun made by man, but it is not necessarily patentable under section 101 unless the conditions of the title are fulfilled.

H.R. 1923 at 7. Although this passage has been used by our court in past cases to justify a broad interpretation of patentable subject matter, I agree with Judge Mayer that, when read in context, the statement undercuts the notion that Congress intended to expand the scope of § 101. See Mayer, J., dissenting op. at 5-6. It refers to things "made by man," not to methods of organizing human activity. In

this respect, the language is reminiscent of the 1799 use of the phrase "something made by the hands of man" by Chief Justice Lord Kenyon as a limitation on patentable subject matter under the Statute of Monopolies. The idea that an invention must be "made by man" was used to distinguish "a philosophical principle only, neither organized or capable of being organized" from a patentable manufacture. *Hornblower*, 8 T.R. at 98. Lord Kenyon held that the patent before [\*\*90] him was not based on a mere principle, but was rather "a patent for a manufacture, which I understand to be something made by the hands of man." *Id.* at 98 (emphases added); accord *American Fruit Growers v. Brogdex Co.*, 283 U.S. 1, 11, 51 S. Ct. 328, 75 L. Ed. 801, 1931 Dec. Comm'r Pat. 711 (1931) (giving "anything made for use from raw or prepared materials" as one definition of "manufacture").

In short, the history of § 101 fully supports the majority's holding that Bilski's claim does not recite patentable subject matter. Our decision does not reflect "legislative" work, but rather careful and respectful adherence to the Congressional purpose.

#### **DISSENT BY: NEWMAN; MAYER; RADER**

#### **DISSENT**

NEWMAN, Circuit Judge, dissenting.

The court today acts en banc to impose a new and far-reaching restriction on the kinds of inventions that are eligible to participate in the patent system. The court achieves this result by redefining the word "process" in the patent statute, to exclude all processes that do not transform physical matter or that are not performed by machines. The court thus excludes many of the kinds of inventions that apply today's electronic and photonic technologies, as well as other processes that handle data and information in novel ways. Such processes have [\*\*91] long been patent eligible, and contribute to the vigor and variety of today's Information Age. This exclusion of process inventions is contrary to statute, contrary to precedent, and a negation of the constitutional mandate. Its impact on the future, as well as on the thousands of patents already granted, is unknown.

This exclusion is imposed at the threshold, before it is determined whether the excluded process is new, non-obvious, enabled, described, particularly claimed, etc.; that is, before the new process is examined for patentability. For example, we do not know whether the

Bilski process would be found patentable under the statutory criteria, for they were never applied.

The innovations of the "knowledge economy"--of "digital prosperity"--have been dominant contributors to today's economic [\*977] growth and societal change. Revision of the commercial structure affecting major aspects of today's industry should be approached with care, for there has been significant reliance on the law as it has existed, as many amici curiae pointed out. Indeed, the full reach of today's change of law is not clear, and the majority opinion states that many existing situations may require reassessment [\*92] under the new criteria.

Uncertainty is the enemy of innovation. These new uncertainties not only diminish the incentives available to new enterprise, but disrupt the settled expectations of those who relied on the law as it existed. I respectfully dissent.

## DISCUSSION

The court's exclusion of specified process inventions from access to the patent system is achieved by redefining the word "process" in the patent statute. However, the court's redefinition is contrary to statute and to explicit rulings of the Supreme Court and this court. I start with the statute:

### *Section 101 is the statement of statutory eligibility*

From the first United States patent act in 1790, the subject matter of the "useful arts" has been stated broadly, lest advance restraints inhibit the unknown future. The nature of patent-eligible subject matter has received judicial attention over the years, as new issues arose with advances in science and technology. The Supreme Court has consistently confirmed the constitutional and legislative purpose of providing a broadly applicable incentive to commerce and creativity, through this system of limited exclusivity. Concurrently, the Court early explained the limits of patentable [\*93] subject matter, in that "fundamental truths" were not intended to be included in a system of exclusive rights, for they are the general foundations of knowledge. Thus laws of nature, natural phenomena, and abstract ideas are not subject to patenting. Several rulings of the Court have reviewed patent eligibility in light of these fundamentals. However, the Court explicitly negated today's restrictions. My colleagues in the majority are mistaken in finding that decisions of the Court require the per se

limits to patent eligibility that the Federal Circuit today imposes. The patent statute and the Court's decisions neither establish nor support the exclusionary criteria now adopted.

The court today holds that any process that does not transform physical matter or require performance by machine is not within the definition of "process" in any of the patent statutes since 1790. All of the statutes contained a broad definition of patent-eligible subject matter, like that in the current Patent Act of 1952:

35 U.S.C §101 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, [\*94] subject to the conditions and requirements of this title.

In *Diamond v. Diehr*, 450 U.S. 175, 101 S. Ct. 1048, 67 L. Ed. 2d 155 (1981) the Court explained that Section 101 is not an independent condition of patentability, but a general statement of subject matter eligibility. The Court stated:

Section 101, however, is a general statement of the type of subject matter that is eligible for patent protection "subject to the conditions and requirements of this title." Specific conditions for patentability follow and §102 covers in detail the conditions relating to novelty. The question therefore of whether a particular invention is novel is "wholly apart [\*978] from whether the invention falls in a category of statutory subject matter."

*Id.* at 189-90 (footnote omitted) (quoting *In re Bergy*, 596 F.2d 952, 961 (C.C.P.A. 1979)).

"Process" is defined in the 1952 statute as follows:

35 U.S.C. §100(b) The term "process" means process, art or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material.

The 1952 Patent Act replaced the word "art" in prior statutes with the word "process," while the rest of Section

101 was unchanged from earlier statutes. The legislative history for the 1952 Act [\*\*95] explained that "art" had been "interpreted by courts to be practically synonymous with process or method." S. Rep. No. 82-1979 (1952), reprinted in 1952 U.S.C.C.A.N. 2394, 2398, 2409-10. In *Diehr* the Court explained that a process "has historically enjoyed patent protection because it was considered a form of 'art' as that term was used in the 1793 Act." 450 U.S. at 182.

The definition of "process" provided at 35 U.S.C. §100(b) is not "unhelpful," as this court now states, maj. op. at 6 n.3, but rather points up the errors in the court's new statutory interpretation. Section 100(b) incorporates the prior usage "art" and the term "method," and places no restriction on the definition. This court's redefinition of "process" as limiting access to the patent system to those processes that use specific machinery or that transform matter, is contrary to two centuries of statutory definition.

The breadth of Section 101 and its predecessor provisions reflects the legislative intention to accommodate not only known fields of creativity, but also the unknown future. The Court has consistently refrained from imposing unwarranted restrictions on statutory eligibility, and for computer-implemented [\*\*96] processes the Court has explicitly rejected the direction now taken. Nonetheless, this court now adopts a redefinition of "process" in Section 101 that excludes forms of information-based and software-implemented inventions arising from new technological capabilities, stating that this result is required by the Court's computer-related cases, starting with *Gottschalk v. Benson*, 409 U.S. 63, 93 S. Ct. 253, 34 L. Ed. 2d 273 (1972). However, the Court in *Benson* rejected the restriction that is imposed today:

***This court's new definition of "process" was rejected in *Gottschalk v. Benson****

In *Benson* the claimed invention was a mathematical process for converting binary-coded decimal numerals into pure binary numbers. The Court explained that a mathematical formula unlimited to a specific use was simply an abstract idea of the nature of "fundamental truths," "phenomena of nature," and "abstract intellectual concepts," as have traditionally been outside of patent systems. 409 U.S. at 67. However, the Court explicitly declined to limit patent-eligible processes in the manner now adopted by this court, stating:

It is argued that a process patent must either be tied to a particular machine or apparatus or must operate to change articles [\*\*97] or materials to a "different state or thing." We do not hold that no process patent could ever qualify if it did not meet the requirements of our prior precedents. It is said that the decision precludes a patent for any program servicing a computer. We do not so hold.

*Id.* at 71. The Court explained that "the requirements of our prior precedents" did not preclude patents on computer programs, despite the statement [\*\*979] drawn from *Cochrane v. Deener*, 94 U.S. 780, 787-88, 24 L. Ed. 139, 1877 Dec. Comm'r Pat. 242 (1876), that "[t]ransformation and reduction of an article 'to a different state or thing' is the clue to the patentability of a process claim that does not include particular machines." *Benson*, 409 U.S. at 70. Although this same statement is now relied upon by this court as requiring its present ruling, maj. op. at 13 & n.11, the Court in *Benson* was explicit that: "We do not hold that no process patent could ever qualify if it did not meet [the Court's] prior precedents." The Court recognized that *Cochrane's* statement was made in the context of a mechanical process and a past era, and protested:

It is said we freeze process patents to old technologies, leaving no room for the revelations of the new, onrushing technology. Such [\*\*98] is not our purpose.

*Benson*, 409 U.S. at 71. Instead, the Court made clear that it was not barring patents on computer programs, and rejected the "argu[ment] that a process patent must either be tied to a particular machine or apparatus or must operate to change articles or materials to a 'different state or thing'" in order to satisfy Section 101. *Id.* Although my colleagues now describe these statements as "equivocal," maj. op. at 14, there is nothing equivocal about "We do not so hold." *Benson*, 409 U.S. at 71. Nonetheless, this court now so holds.

***In *Parker v. Flook* the Court again rejected today's restrictions***

The eligibility of mathematical processes next reached the Court in *Parker v. Flook*, 437 U.S. 584, 98 S.

Ct. 2522, 57 L. Ed. 2d 451 (1978), where the Court held that the "process" category of Section 101 was not met by a claim to a mathematical formula for calculation of alarm limits for use in connection with catalytic conversion of hydrocarbons and, as in Benson, the claim was essentially for the mathematical formula. The Court later summarized its Flook holding, stating in *Diamond v. Diehr* that:

The [Flook] application, however, did not purport to explain how these other variables were to be determined, nor did [\*\*99] it purport "to contain any disclosure relating to the chemical processes at work, the monitoring of the process variables, nor the means of setting off an alarm or adjusting an alarm system. All that it provides is a formula for computing an updated alarm limit."

*Diehr*, 450 U.S. at 186-87 (quoting *Flook*, 437 U.S. at 586).

The Court explained in *Flook* that a field-of-use restriction to catalytic conversion did not distinguish *Flook*'s mathematical process from that in *Benson*. However, the Court reiterated that patent eligibility of computer-directed processes is not controlled by the "qualifications of our earlier precedents," again negating any limiting effect of the usages of the past, on which this court now places heavy reliance. The Court stated:

The statutory definition of "process" is broad. An argument can be made, however, that this Court has only recognized a process as within the statutory definition when it either was tied to a particular apparatus or operated to change materials to a "different state or thing." As in *Benson*, we assume that a valid process patent may issue even if it does not meet one of these qualifications of our earlier precedents.<sup>1</sup>

[\*980] *Flook*, 437 U.S. at 589 n.9 [\*\*100] (quoting *Cochrane*, 94 U.S. at 787). This statement directly contravenes this court's new requirement that all processes must meet the court's "machine-or-transformation test" or be barred from access to the patent system.

1 My colleagues cite only part of this quotation as the Court's holding in *Flook*, maj. op. at 13, ignoring the qualifying words "[a]n argument can be made" as well as the next sentence clarifying that this argument was rejected by the Court in *Benson* and is now again rejected in *Flook*.

The Court in *Flook* discussed that abstractions and fundamental principles have never been subject to patenting, but recognized the "unclear line" between an abstract principle and the application of such principle:

The line between a patentable "process" and an unpatentable "principle" is not always clear. Both are "conception[s] of the mind, seen only by [their] effects when being executed or performed."

*Flook*, 437 U.S. at 589 (alterations in original) (quoting *Tilghman v. Proctor*, 102 U.S. 707, 728, 26 L. Ed. 279, 1881 Dec. Comm'r Pat. 163 (1880)).

The decision in *Flook* has been recognized as a step in the evolution of the Court's thinking about computers. See *Arrhythmia Res. Tech., Inc. v. Corazonix Corp.*, 958 F.2d 1053, 1057 n.4 (Fed. Cir. 1992) [\*\*101] ("it appears to be generally agreed that these decisions represent evolving views of the Court") (citing R.L. Gable & J.B. Leaheey, *The Strength of Patent Protection for Computer Products*, 17 *Rutgers Computer & Tech. L.J.* 87 (1991); D. Chisum, *The Patentability of Algorithms*, 47 *U. Pitt. L. Rev.* 959 (1986)). That *Flook* does not support today's per se exclusion of forms of process inventions from access to the patent system is reinforced in the next Section 101 case decided by the Court:

***In Diamond v. Chakrabarty the Court again rejected per se exclusions of subject matter from Section 101***

In *Diamond v. Chakrabarty*, 447 U.S. 303, 100 S. Ct. 2204, 65 L. Ed. 2d 144 (1980), the scope of Section 101 was challenged as applied to the new fields of biotechnology and genetic engineering, with respect to the patent eligibility of a new bacterial "life form." The Court explained the reason for the broad terms of Section 101:

The subject-matter provisions of the patent law have been cast in broad terms

to fulfill the constitutional and statutory goal of promoting "the Progress of Science and the useful Arts" with all that means for the social and economic benefits envisioned by Jefferson. Broad general language is not necessarily [\*\*102] ambiguous when congressional objectives require broad terms.

Id. at 315 (quoting U.S. Const., art. I, §8). The Court referred to the use of "any" in Section 101 ("Whoever invents or discovers any new and useful process . . . or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title"), and reiterated that the statutory language shows that Congress "plainly contemplated that the patent laws would be given wide scope." Id. at 308. The Court referred to the legislative intent to include within the scope of Section 101 "anything under the sun that is made by man," id. at 309 (citing S. Rep. 82-1979, at 5; H.R. Rep. 82-1923, at 6 (1952)), and stated that the unforeseeable future should not be inhibited by judicial restriction of the "broad general language" of Section 101:

A rule that unanticipated inventions are without protection would conflict with the core concept of the patent law that anticipation undermines patentability. Mr. Justice Douglas reminded that the [\*981] inventions most benefiting mankind are those that push back the frontiers of chemistry, physics, and the like. Congress employed broad general language in [\*\*103] drafting §101 precisely because such inventions are often unforeseeable.

Id. at 315-16 (citations and internal quotation marks omitted). The Court emphasized that its precedents did not alter this understanding of Section 101's breadth, stating that "Flook did not announce a new principle that inventions in areas not contemplated by Congress when the patent laws were enacted are unpatentable per se." Id. at 315.

Whether the applications of physics and chemistry that are manifested in advances in computer hardware and software were more or less foreseeable than the advances in biology and biotechnology is debatable, but it is not debatable that these fields of endeavor have become primary contributors to today's economy and

culture, as well as offering an untold potential for future advances. My colleagues offer no reason now to adopt a policy of exclusion of the unknown future from the subject matter now embraced in Section 101.

Soon after *Chakrabarty* was decided, the Court returned to patentability issues arising from computer capabilities:

***In Diamond v. Diehr the Court directly held that computer-implemented processes are included in Section 101***

The invention presented to the Court in [\*\*104] *Diehr* was a "physical and chemical process for molding precision synthetic rubber products" where the process steps included using a mathematical formula. The Court held that the invention fit the "process" category of Section 101 although mathematical calculations were involved, and repeated its observation in *Chakrabarty* that "courts should not read into the patent laws limitations and conditions which the legislature has not expressed." *Diehr*, 450 U.S. at 182 (internal quotation marks omitted) (citing *Chakrabarty*, 447 U.S. at 308).

The Court distinguished a claim that would cover all uses of a mathematical formula and thus is an abstract construct, as in *Benson*, from a claim that applies a mathematical calculation for a specified purpose, as in *Diehr*. The Court stated that "a claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula, computer program, or digital computer," id. at 187, and explained that the line between statutory and nonstatutory processes depends on whether the process is directed to a specific purpose, see id. ("It is now commonplace that an application of a law of nature or mathematical formula [\*\*105] to a known structure or process may well be deserving of patent protection." (emphasis in original)). The Court clarified that *Flook* did not hold that claims may be dissected into old and new parts to assess their patent eligibility. Id. at 189 n.12.

However, the Court did not propose the "machine-or-transformation" test that this court now insists was "enunciated" in *Diehr* as a specific limit to Section 101. Maj. op. at 10. In *Diehr* there was no issue of machine or transformation, for the *Diehr* process both employed a machine and produced a chemical transformation: the process was conducted in "an openable rubber molding press," and it cured the rubber.

In discussing the known mathematical formula used by Diehr to calculate the relation between temperature and the rate of a chemical reaction, the Court recited the traditional exceptions of "laws of nature, natural phenomena, and abstract ideas," 450 U.S. at 185, and explained that the entirety of the process [\*982] must be considered, not an individual mathematical step.

The Court characterized the holdings in *Benson* and *Flook* as standing for no more than the continued relevance of these "long-established" judicial exclusions, *id.*, and repeated [\*106] that a practical application of pure science or mathematics may be patentable, citing *Mackay Radio & Telegraph Co. v. Radio Corp. of America*, 306 U.S. 86, 94, 59 S. Ct. 427, 83 L. Ed. 506, 1939 Dec. Comm'r Pat. 857 (1939) ("While a scientific truth, or the mathematical expression of it, is not a patentable invention, a novel and useful structure created with the aid of knowledge and scientific truth may be."). The Court explained that the presence of a mathematical formula does not preclude patentability when the structure or process is performing a function within the scope of the patent system, stating:

[W]hen a claim containing a mathematical formula implements or applies that formula in a structure or process which, when considered as a whole, is performing a function which the patent laws were designed to protect (e.g., transforming or reducing an article to a different state or thing), then the claim satisfies the requirements of § 101.

450 U.S. at 192. This statement's parenthetical "e.g." is relied on by the majority for its statement that *Diehr* requires today's "machine-or-transformation" test. However, this "e.g." does not purport to state the only "function which the patent laws were designed to protect." *Id.* This "e.g." indeed [\*107] describes the process in *Diehr*, but it does not exclude all other processes from access to patenting.

It cannot be inferred that the Court intended, by this "e.g." parenthetical, to require the far-reaching exclusions now attributed to it. To the contrary, the Court in *Diehr* was explicit that "an application of a law of nature or mathematical formula" may merit patent protection, 450 U.S. at 187 (emphasis in original), and that the claimed process must be considered as a whole, *id.* at 188. The

Court recognized that a process claim may combine steps that were separately known, and that abstract ideas such as mathematical formulae may be combined with other steps to produce a patentable process. *Id.* at 187. The steps are not to be "dissect[ed]" into new and old steps; it is the entire process that frames the Section 101 inquiry. *Id.* at 188.

The *Diehr* Court did not hold, as the majority opinion states, that transformation of physical state is a requirement of eligibility set by Section 101 unless the process is performed by a machine. It cannot be inferred that the Court silently imposed such a rule. See *maj. op.* at 14 (relying on lack of repetition in *Diehr* of the *Benson* and *Flook* disclaimers [\*108] of requiring machine or transformation, as an implicit rejection of these disclaimers and tacit adoption of the requirement). There was no issue in *Diehr* of the need for either machine or transformation, for both were undisputedly present in the process of curing rubber. It cannot be said that the Court "enunciated" today's "definitive test" in *Diehr*.<sup>2</sup>

2 Many amici curiae pointed out that the Supreme Court did not adopt the test that this court now attributes to it. See, e.g., Br. of Amicus Curiae Am. Intellectual Property Law Ass'n at 18 & n.16; Br. of Amicus Curiae Biotechnology Industry Org. at 17-21; Br. of Amicus Curiae Boston Patent Law Ass'n at 6-8; Br. of Amicus Curiae Business Software Alliance at 13; Br. of Amicus Curiae Federal Circuit Bar Ass'n at 21; Br. of Amicus Curiae Regulatory Datacorp, Inc. at 12-13; Br. of Amicus Curiae Accenture at 16-17; Br. of Amicus Curiae Washington State Patent Law Ass'n at 10-11.

[\*983] ***Subsequent Supreme Court authority reinforced the breadth of Section 101***

In *J.E.M. Ag Supply, Inc. v. Pioneer Hi-Bred International, Inc.*, 534 U.S. 124, 122 S. Ct. 593, 151 L. Ed. 2d 508 (2001), the Court described Section 101 as a "dynamic provision designed to encompass new and unforeseen inventions," [\*109] *id.* at 135, that case arising in the context of eligibility of newly developed plant varieties for patenting. The Court stated: "As in *Chakrabarty*, we decline to narrow the reach of §101 where Congress has given us no indication that it intends this result." *Id.* at 145-46. The Court reiterated that "Congress plainly contemplated that the patent laws would be given wide scope," *id.* at 130 (quoting



Chakrabarty, 447 U.S. at 308), and that the language of Section 101 is "extremely broad," *id.* This is not language of restriction, and it reflects the statutory policy and purpose of inclusion, not exclusion, in Section 101.

***The Court's decisions of an earlier age do not support this court's restrictions of Section 101***

My colleagues also find support for their restrictions on patent-eligible "process" inventions in the pre-Section 101 decisions *O'Reilly v. Morse*, 56 U.S. (15 How.) 62, 14 L. Ed. 601 (1853), *Cochrane v. Deener*, 94 U.S. 780, 24 L. Ed. 139, 1877 Dec. Comm'r Pat. 242 (1876), and *Tilghman v. Proctor*, 102 U.S. 707, 26 L. Ed. 279, 1881 Dec. Comm'r Pat. 163 (1880). Although the Court in *Benson* and in *Flook* took care to state that these early decisions do not require the restrictions that the Court was rejecting, this court now places heavy reliance on these early decisions, which [\*110] this court describes as "consistent with the machine-or-transformation test later articulated in *Benson* and reaffirmed in *Diehr*." Maj. op. at 12. As I have discussed, no such test was "articulated in *Benson*" and "reaffirmed in *Diehr*."

However, these early cases do show, contrary to the majority opinion, that a "process" has always been a distinct category of patentable invention, and not tied to either apparatus or transformation, as this court now holds. For example, in *Tilghman v. Proctor* the Court considered a patent on a process for separating fats and oils, and held that the process was not restricted to any particular apparatus. The Court held that a process is an independent category of invention, and stated:

That a patent can be granted for a process, there can be no doubt. The patent law is not confined to new machines and new compositions of matter, but extends to any new and useful art or manufacture.

102 U.S. at 722; see also *Corning v. Burden*, 56 U.S. (15 How.) 252, 268, 14 L. Ed. 683 (1853) ("It is for the discovery or invention of some practical method or means of producing a beneficial result or effect, that a patent is granted, and not for the result or effect itself.") The difference [\*111] between a process and the other categories of patent-eligible subject matter does not deprive process inventions of the independent status accorded by statute, by precedent, and by logic, all of which negate the court's new rule that a process must be

tied to a particular machine or must transform physical matter.

The majority also relies on *O'Reilly v. Morse*, citing the Court's rejection of Morse's Claim 8 for "the use of the motive power of the electro or galvanic current, which I call electromagnetism, however developed, for making or printing intelligible characters, signs or letters at any distances . . . ." The Court explained:

In fine he claims an exclusive right to use a manner and process which he has not described and indeed had not invented, and therefore could not describe when he obtained his patent. The Court [\*984] is of the opinion that the claim is too broad, and not warranted by law.

56 U.S. (15 How.) at 113. However, the claims that were directed to the communication system that was described by Morse were held patentable, although no machine, transformation, or manufacture was required. See Morse's Claim 5 ("The system of signs, consisting of dots and spaces, and horizontal [\*112] lines, for numerals, letters, words, or sentences, substantially as herein set forth and illustrated, for telegraphic purposes."). I cannot discern how the Court's rejection of Morse's Claim 8 on what would now be Section 112 grounds, or the allowance of his other claims, supports this court's ruling today. Indeed, Morse's claim 5, to a system of signs, is no more "tangible" than the systems held patentable in *Alappat* and *State Street Bank*, discussed post and now cast into doubt, or the *Bilski* system here held ineligible for access to patenting.

The majority opinion also relies on *Cochrane v. Deener*, particularly on certain words quoted in subsequent opinions of the Court. In *Cochrane* the invention was a method for bolting flour, described as a series of mechanical steps in the processing of flour meal. The question before the Court was whether the patented process would be infringed if the same steps were performed using different machinery. The answer was "that a process may be patentable, irrespective of the particular form of the instrumentalities used." 94 U.S. at 788. The Court stressed the independence of a process from the tools that perform it:

A process is a mode of treatment [\*113] of certain materials to produce a

given result. It is an act, or series of acts, performed upon the subject-matter to be transformed and reduced to a different state or thing. If new and useful, it is just as patentable as is a piece of machinery. In the language of the patent law, it is an art. The machinery pointed out as suitable to perform the process may or may not be new or patentable; whilst the process itself may be altogether new, and produce an entirely new result. The process requires that certain things should be done with certain substances, and in a certain order; but the tools to be used in doing this may be of secondary consequence.

94 U.S. at 788. The Court did not restrict the kinds of patentable processes; the issue in *Cochrane* was whether the process must be tied to the machinery that the patentee used to perform it.

This court now cites *Cochrane's* description of a process as "acts performed upon subject-matter to be transformed and reduced to a different state or thing," *id.*, this court stating that unless there is transformation there is no patentable process. That is not what this passage means. In earlier opinions this court and its predecessor court stated the [\*\*114] correct view of this passage, as has the Supreme Court. The Court of Customs and Patent Appeals observed:

[This *Cochrane* passage] has sometimes been misconstrued as a 'rule' or 'definition' requiring that all processes, to be patentable, must operate physically on substances. Such a result misapprehends the nature of the passage quoted as dictum, in its context, and the question being discussed by the author of the opinion. To deduce such a rule from the statement would be contrary to its intendment which was not to limit process patentability but to point out that a process is not limited to the means used in performing it.

In *re* Prater, 415 F.2d 1393, 1403, 56 C.C.P.A. 1381 (C.C.P.A. 1969). Again in *In re Schrader*, 22 F.3d 290, 295 n.12 (Fed. Cir. 1994) this court noted that *Cochrane* did not limit patent eligible subject matter to [\*985] physical transformation, and that transformation of

"intangibles" could qualify for patenting. In *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352, 1358 (Fed. Cir. 1999), this court described physical transformation as "merely one example of how a mathematical algorithm may bring about a useful application."

The Court saw the *Cochrane* decision in its proper perspective. [\*\*115] Both *Flook* and *Benson* rejected the idea that *Cochrane* imposed the requirement of either specific machinery or the transformation of matter, as discussed ante. See *Flook*, 437 U.S. at 588 n.9; *Benson*, 409 U.S. at 71. Non-transformative processes were not at issue in either *Cochrane* or *Diehr*, and there is no endorsement in *Diehr* of a "machine-or-transformation" requirement for patentable processes.

These early cases cannot be held now to require exclusion, from the Section 101 definition of "process," of all processes that deal with data and information, whose only machinery is electrons, photons, or waves, or whose product is not a transformed physical substance.

***The English Statute of Monopolies and English common law do not limit "process" in Section 101***

I comment on this aspect in view of the proposal in the concurring opinion that this court's new two-prong test for Section 101 process inventions was implicit in United States law starting with the Act of 1790, because of Congress's knowledge of and importation of English common law and the English Statute of Monopolies of 1623. The full history of patent law in England is too ambitious to be achieved within the confines of *Bilski's* [\*\*116] appeal,<sup>3</sup> and the concurring opinion's selective treatment of this history may propagate misunderstanding.

3 Scholarly histories include M. Frumkin, *The Origin of Patents*, 27 J.P.O.S. 143 (1945); E. Wyndham Hulme, *Privy Council Law and Practice of Letters Patent for Invention from the Restoration to 1794*, 33 L.Q. Rev. 63 (Part I), 180 (Part II) (1917); Hulme, *On the History of Patent Law in the Seventeenth and Eighteenth Centuries*, 18 L.Q. Rev. 280 (1902); Hulme, *The History of the Patent System Under the Prerogative and at Common Law*, 12 L.Q. Rev. 141 (1896); Ramon A. Klitzke, *Historical Background of the English Patent Law*, 41 J.P.O.S. 615 (1959); Christine MacLeod, *Inventing the Industrial Revolution*:

The English Patent System 1660-1800 (1988); Frank D. Prager, *Historic Background and Foundation of American Patent Law*, 5 Am. J. Legal Hist. 309 (1961); Brad Sherman & Lionel Bently, *The Making of Modern Intellectual Property Law: The British Experience, 1760-1911* (1999); Edward C. Walterscheid, *The Early Evolution of the United States Patent Law: Antecedents*, printed serially at J. Pat. & Trademark Off. Soc'y ("J.P.T.O.S.") 76:697 (1994) (Part 1); 76:849 (1994) (Part 2); 77:771, 847 [\*\*117] (1995) (Part 3); 78:77 (1996) (Part 4); 78:615 (1996) (Part 5, part I); and 78:665 (1996) (Part 5, part II) (hereinafter "Early Evolution"); and Edward C. Walterscheid, *To Promote the Progress of Useful Arts: American Patent Law and Administration, 1798-1836* (1998).

The concurrence places primary reliance on the Statute of Monopolies, which was enacted in response to the monarchy's grant of monopolies "to court favorites in goods or businesses which had long before been enjoyed by the public." *Graham v. John Deere Co.*, 383 U.S. 1, 5, 86 S. Ct. 684, 15 L. Ed. 2d 545 (1966) (citing Peter Meinhardt, *Inventions, Patents and Monopoly* 30-35 (1946)). The Statute of Monopolies outlawed these "odious monopolies" or favors of the Crown, but, contrary to the concurring opinion, the Statute had nothing whatever to do with narrowing or eliminating categories of inventive subject matter eligible for a British patent. See Prager, *Historic Background and Foundation of American Patent Law*, 5 Am. J. Legal Hist. at 313 ("The statute [of Monopolies] said nothing about meritorious [\*986] functions of patents, nothing about patent disclosures, and nothing about patent procedures; it was only directed against patent abuses.").

Patents for inventions [\*\*118] had been granted by the Crown long before 1623. See Hulme, *The History of the Patent System Under the Prerogative and at Common Law*, 12 L.Q. Rev. at 143 (the first patent grant to the "introducer of a newly-invented process" was in 1440); Klitzke, *Historical Background of the English Patent Law*, 41 J.P.O.S. at 626-27 (discussing first patents for "invention" in England in the fifteenth century). That practice was unaffected by the terms of the Statute of Monopolies, which rendered "utterly void" all "Monopolies and all Commissions, Grants, Licenses, Charters and Letters Patent" that were directed to "the

sole Buying, Selling, Making, Working or Using any Thing within this Realm," 21 Jac. 1, c.3, §I (Eng.), but which specifically excepted Letters Patent for inventions from that exclusion, id. §VI. The only new limitation on patents for invention was a fourteen-year limit on the term of exclusivity. See Klitzke, *Historical Background of the English Patent Law*, 41 J.P.O.S. at 649.

The usage "Letters Patent" described one of the forms of document whereby the Crown granted various rights, whether the grant was for an odious monopoly that the Statute of Monopolies eliminated, or for rights [\*\*119] to an invention new to England. That usage was not changed by the Statute of Monopolies. Nor were other aspects of the British practice which differed from that enacted in the United States, particularly the aspect whereby a British patent could be granted to a person who imported something that was new to England, whether or not the import was previously known or the importer was the inventor thereof. In England, "[t]he rights of the inventor are derived from those of the importer, and not vice versa as is commonly supposed." Hulme, *The History of the Patent System Under the Prerogative and at Common Law*, 12 L.Q.R. at 152; see also MacLeod, *Inventing the Industrial Revolution* 13 ("The rights of the first inventor were understood to derive from those of the first importer of the invention.").

In contrast, in the United States the patent right has never been predicated upon importation, and has never been limited to "manufactures." See, e.g., Walterscheid, *To Promote the Progress of Useful Arts* 93, 137-38, 224; see also Prager, *Historic Background and Foundation of American Patent Law*, 5 Am. J. Legal Hist. at 309 ("The American Revolution destroyed many of the ancient customs; it brought [\*\*120] a sweeping reorientation of patent law, with new forms, new rules, new concepts, and new ideals."). The differences between the American and English patent law at this nation's founding were marked, and English judicial decisions interpreting the English statute are of limited use in interpreting the United States statute. In all events, no English decision supports this court's new restrictive definition of "process."

The concurrence proposes that the Statute of Monopolies provides a binding definition of the terms "manufacture," "machine," "composition of matter," and "process" in Section 101 of the U.S. Patent Act. See concurring op. at 5-8. The only one of these terms that appears in the Statute of Monopolies is "manufacture", a

broad term that reflects the usage of the period. Even at the time of this country's founding, the usage was broad, as set forth in Samuel Johnson's Dictionary of the English Language (3d. ed. 1768), which defines "manufacture" as "any thing made by art," and defines [\*987] "art" as "the power of doing something not taught by nature and instinct"; "a science"; "a trade"; "artfulness"; "skill"; "dexterity." Historians explain that England's primary motive for patenting [\*121] was to promote "[a]cquisition of superior Continental technology" at a time when England lagged behind, see MacLeod, *Inventing the Industrial Revolution* 11; this cannot be interpreted to mean that England and perforce the United States intended to eliminate "processes" from this incentive system. It is inconceivable that on this background the Framers, and again the enactors of the first United States patent statutes in 1790 and 1793, intended sub silentio to impose the limitations on "process" now created by this court.

Congress' earliest known draft patent bill included the terms "art, manufacture, engine, machine, invention or device, or any improvement upon the same." Walterscheid, *To Promote the Progress of Useful Arts* 92. The 1793 Act explicitly stated "any new and useful art," §1, 1 Stat. 318 (1793), a usage that was carried forward until "art" was replaced with "process" in 35 U.S.C. §101 and defined in §100(b). Historians discuss that Congress' inclusion of any "art" or "process" in the patent system was a deliberate clarification of the English practice. See Walterscheid, *To Promote the Progress of Useful Arts* 93 ("[The first patent bill] appears to be an obvious attempt to [\*122] deal legislatively with issues that were beginning to be addressed by the English courts. . . . [I]t states unequivocally that improvement inventions are patentable and expands the definition of invention or discovery beyond simply 'manufacture.'"); Karl B. Lutz, *Patents and Science: A Clarification of the Patent Clause of the U.S. Constitution*, 32 J.P.O.S. 83, 86 (1950) ("By the year 1787 it was being recognized even in Great Britain that the phrase 'new manufactures' was an unduly limited object for a patent system, since it seems to exclude new processes. . . . [This question was] resolved in the United States Constitution by broadening the field from 'new manufactures' to 'useful arts' . . .").

In interpreting a statute, it is the language selected by Congress that occupies center stage: "[O]ur obligation is to take statutes as we find them, guided, if ambiguity appears, by the legislative history and statutory purpose."

Chakrabarty, 447 U.S. at 315. The Court has "perceive[d] no ambiguity" in Section 101, leaving no need for foreign assistance. *Id.* The legislative choice to afford the patent system "wide scope," *id.* at 308, including "process" inventions, evolved in the United [\*123] States independent of later developments of the common law in England.

The concurrence concludes that the Statute of Monopolies foreclosed the future patenting of anything that the concurrence calls a "business method"--the term is not defined--whether or not the method is new, inventive, and useful. But the Statute of Monopolies only foreclosed "odious" monopolies, illustrated by historical reports that Queen Elizabeth had granted monopolies on salt, ale, saltpeter, white soap, dredging machines, playing cards, and rape seed oil, and on processes and services such as Spanish leather-making, mining of various metals and ores, dying and dressing cloth, and iron tempering. See Walterscheid, *Early Evolution* (Part 2), 76 J.P.T.O.S. at 854 n.14; Klitzke, *Historical Background of the English Patent Law*, 41 J.P.O.S. at 634-35. These and other grants, many of which were implemented by Letters Patent, were the "odious monopolies" that were rendered illegal. They included several classes of known activity, product and process, and had nothing to do with new "inventions." [\*988] The Statute of Monopolies cannot be held to have restricted the kinds of new processes that can today be eligible for patenting [\*124] in the United States, merely because it outlawed patents on non-novel businesses in England. The presence or absence of "organizing human activity," a vague term created by the concurrence, has no connection or relevance to Parliament's elimination of monopoly patronage grants for old, established arts. The Statute of Monopolies neither excluded nor included inventions that involve human activity, although the words "the sole working or making in any manner of new manufactures" presuppose human activity. 21 Jac. 1, c.3, §VI (emphases added). We are directed to no authority for the proposition that a new and inventive process involving "human activity" has historically been treated differently from other processes; indeed, most inventions involve human activity.

The concurrence has provided hints of the complexity of the evolution of patent law in England, as in the United States, as the Industrial Revolution took hold. Historians have recognized these complexities. See, e.g., Walterscheid, *To Promote the Progress of Useful*

Arts 5 ("[T]he American patent law almost from its inception departed from its common law counterpart in the interpretation that would be given to the definition [\*\*125] of novelty . . . ."); Klitzke, *Historical Background of the English Patent Law*, 41 J.P.O.S. at 638 (noting that in Elizabethan times, novelty only required a showing that "the industry had not been carried on within the realm within a reasonable period of time, while today "the proof of a single public sale of an article" or a "printed publication" can negate patentability).

I caution against over-simplification, particularly in view of the uncertainties in English common law at the time of this country's founding. See *Boulton v. Bull*, 2 H. Bl. 463, 491 (C.P. 1795) (Eyre, C.J.) ("Patent rights are no where that I can find accurately discussed in our books."); MacLeod, *Inventing the Industrial Revolution* 61 ("It was only from the time when the Privy Council relinquished jurisdiction that a case law on patents began to develop. . . . But it was a slow process and even the spate of hard-fought patent cases at the end of the eighteenth century did little to establish a solid core of judicial wisdom."). The English judicial opinions of the eighteenth century were not as limiting on the United States as my colleagues suggest. See Walterscheid, *The Nature of the Intellectual Property Clause: [\*\*126] A Study in Historical Perspective* 355 (2002) ("In the eighteenth century, patentees and those who gave advice concerning patents were certainly of the view that the Statute did not preclude the patenting of general principles of operation."); see also MacLeod, *Inventing the Industrial Revolution* 63-64.

It is reported that in the century and a half following enactment of the Statute of Monopolies, the English patent registers were replete with inventions claimed as "processes." See Walterscheid, *Early Evolution* (Part 3), 77 J.P.T.O.S. at 856 ("As one of the earliest texts on the patent law stated in 1806: 'most of the patents now taken out, are by name, for the method of doing particular things . . . .'). The concurrence agrees; but it is also reported that because patents were not litigated in the common law courts until the Privy Council authorized such suits in 1752, judicial interpretation of various aspects of patent law were essentially absent until about the time this country achieved independence, leading to the variety of views expressed in *Boulton v. Bull*. The legislators in the new United States cannot now be assigned the straightjacket of law not yet developed in

England. [\*\*127] Indeed, the [\*989] first patent granted by President Washington, upon examination by Secretary of State Jefferson, was for a method of "making Pot-ash and Pearl-ash," a process patent granted during the period that the concurrence states was fraught with English uncertainty about process patents. See *The First United States Patent*, 36 J.P.O.S. 615, 616-17 (1954).

The concurrence lists some English process patents predating the United States' 1793 Patent Act, and argues that processes not sufficiently "like" these archaic inventions should not now be eligible for patenting. I refer simply to *Flook*, 437 U.S. at 588 n.9, where the Court stated: "As in *Benson*, we assume that a valid process patent may issue even if it does not meet one of the qualifications of our earlier precedents." Similarly, the *Chakrabarty* Court stated: "[A] statute is not to be confined to the particular applications . . . contemplated by the legislators. This is especially true in the field of patent law." *Chakrabarty*, 447 U.S. at 315-16 (citing *Barr v. United States*, 324 U.S. 83, 90, 65 S. Ct. 522, 89 L. Ed. 765 (1945); *Browder v. United States*, 312 U.S. 335, 339, 61 S. Ct. 599, 85 L. Ed. 862 (1941); *Puerto Rico v. Shell Co.*, 302 U.S. 253, 257, 58 S. Ct. 167, 82 L. Ed. 235 (1937)). The meaning of the statutory [\*\*128] term "process" is not limited by particular examples from more than two hundred years ago.

However, I cannot resist pointing to the "business method" patents on Woodcroft's list. See concurring op. at 15 (citing No. 1197 to John Knox (July 21, 1778) ("Plan for assurances on lives of persons from 10 to 80 years of age.")). Several other process patents on Woodcroft's list appear to involve financial subject matter, and to require primarily human activity. See, e.g., No. 1170 to John Molesworth (Sept. 29, 1777) ("Securing to the purchasers of shares and chances of state-lottery tickets any prize drawn in their favor."); No. 1159 to William Nicholson (July 14, 1777) ("Securing the property of persons purchasing shares of State-lottery tickets."), cited in Bennet Woodcroft, *Alphabetical Index of Patentees of Inventions* 383, 410 (U.S. ed. 1969). Other English process patents from the several decades following 1793 can aptly be described as "business methods," although not performed with the aid of computers. E.g., No. 10,367 to George Robert D'Harcourt (Oct. 29, 1844) ("Ascertaining and checking the number of checks or tickets which have been used and marked, applicable for railway officers.").

While [\*\*129] most patents of an earlier era reflect the dominant mechanical and chemical technologies of that era, modern processes reflect the dramatic advances in telecommunications and computing that have occurred since the time of George III. See USPTO White Paper, Automated Financial or Management Data Processing Methods (Business Methods) 4 (2000), available at <http://www.uspto.gov/web/menu/busmethp/whitepaper.pdf> (hereinafter USPTO White Paper) ("The full arrival of electricity as a component in business data processing system[s] was a watershed event."). It is apparent that economic, or "business method," or "human activity" patents were neither explicitly nor implicitly foreclosed from access to the English patent system.

### *Evolution of process patents in the United States*

The United States' history of patenting establishes the same point. The PTO has located various patents predating modern computer usages that can be described as financial or business methods. The USPTO White Paper at 3-4 and appendix A describes the history of financial apparatus and method patents dating back to 1799, including patents on bank notes, bills of [\*\*990] credit, bills of exchange, check blanks, detecting and preventing [\*\*130] counterfeiting, coin counting, interest calculation tables, and lotteries, all within the first fifty years of the United States patent system. It is a distortion of these patents to describe the processes as "tied to" another statutory category--that is, paper and pencil. Concurring op. at 16-17 & n.18. Replacement of paper with a computer screen, and pencil with electrons, does not "untie" the process. Fairly considered, the many older financial and business-oriented patents that the PTO and many of the amici have identified are of the same type as the Bilski claims; they were surely not rendered patent-eligible solely because they used "paper" to instantiate the financial strategies and transactions that comprised their contribution.

I do not disagree with the general suggestion that statutes intended to codify the existing common law are to be interpreted in light of then-contemporary practice, including, if relevant, the English cases. See concurring op. at 12-13. However, the court must be scrupulous in assessing the relevance of decisions that were formulated on particularized facts involving the technology of the period. The United States Supreme Court has never held that "process" [\*\*131] inventions suffered a second-class status under our statutes, achieving patent eligibility only

derivatively through an explicit "tie" to another statutory category. The Court has repeatedly disparaged efforts to read in restrictions not based on statutory language. See *Diehr*, 450 U.S. at 182; *Chakrabarty*, 447 U.S. at 308. Yet second-class status is today engrafted on "process" inventions. There is plainly no basis for such restriction, which is a direct path to the "gloomy thought" that concerned Senator O.H. Platt in his Remarks in Congress at the Centennial Proceedings of the United States Patent System:

For one, I cannot entertain the gloomy thought that we have come to that century in the world's life in which new and grander achievements are impossible. . . . Invention is a prolific mother; every inventive triumph stimulates new effort. Man never is and never will be content with success, and the great secrets of nature are as yet largely undiscovered.

*Invention and Advancement* (1891), reprinted in *United States Bicentennial Commemorative Edition of Proceedings and Addresses: Celebration of the Beginning of the Second Century of the American Patent System* 75-76 (1990).

In sum, history [\*\*132] does not support the retrogression sponsored by the concurrence.

### *This court now rejects its own CCPA and Federal Circuit precedent*

The majority opinion holds that there is a Supreme Court restriction on process patents, "enunciated" in *Benson*, *Flook*, and *Diehr*; and that this restriction was improperly ignored by the Federal Circuit and the Court of Customs and Patent Appeals, leading us into error which we must now correct. Thus this court announces that our prior decisions may no longer be relied upon. Maj. op. at 19-20 & nn.17, 19. The effect on the patents and businesses that did rely on them is not considered.

The Court's decisions in *Benson*, *Flook*, and *Diehr* all reached the Supreme Court by way of the CCPA, and the CCPA successively implemented the Court's guidance in establishing the *Freeman/Walter/Abele* test for eligibility under Section 101. The Federal Circuit continued to consider computer-facilitated processes, as in *Arrhythmia Research Technology*, 958 F.2d at 1059-60, where patent-eligibility was confirmed for a

computer-assisted [\*991] mathematical analysis of electrocardiograph signals that determined the likelihood of recurrence of heart attack. This court now rules that this [\*133] precedent "should no longer be relied on." Maj. op. at 19 n.17.

In *In re Alappat*, 33 F.3d 1526 (Fed. Cir. 1994) (en banc) the question was the eligibility for patent of a rasterizer that mathematically transforms data to eliminate aliasing in a digital oscilloscope. The court held that a computer-implemented system that produces a "useful, concrete, and tangible result" is Section 101 subject matter. Id. at 1544. This court now rules that "a 'useful, concrete and tangible result' analysis should no longer be relied on." Maj. op. at 20 n.19.

The *Alappat* court stressed the intent, embodied in the language of the statute, that the patent system be broadly available to new and useful inventions:

The use of the expansive term "any" in §101 represents Congress's intent not to place any restrictions on the subject matter for which a patent may be obtained beyond those specifically recited in §101 and other parts of Title 35.

33 F.3d at 1542. This court looked to the Supreme Court's guidance in its Section 101 decisions, and explained:

A close analysis of *Diehr*, *Flook*, and *Benson* reveals that the Supreme Court never intended to create an overly broad, fourth category of [mathematical] subject matter [\*134] excluded from §101. Rather, at the core of the Court's analysis in each of these cases lies an attempt by the Court to explain a rather straightforward concept, namely, that certain types of mathematical subject matter, standing alone, represent nothing more than abstract ideas until reduced to some type of practical application, and thus that subject matter is not, in and of itself, entitled to patent protection.

Id. at 1543 (emphasis in original). The court cited the Supreme Court's distinction between abstract ideas and their practical application, and stated of the claimed rasterizer: "This is not a disembodied mathematical

concept which may be characterized as an 'abstract idea,' but rather a specific machine to produce a useful, concrete, and tangible result." Id. at 1544.

This principle was applied to a computer-implemented data processing system for managing pooled mutual fund assets in *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368 (Fed. Cir. 1998), and to a method for recording and processing telephone data in *AT&T v. Excel*. The court explained that processes that include mathematical calculations in a practical application can produce a useful, [\*135] concrete, and tangible result, which in *State Street Bank* was "expressed in numbers, such as price, profit, percentage, cost, or loss." 149 F.3d at 1375. In *AT&T v. Excel* the court applied *State Street Bank* and *Diehr*, and stated that "physical transformation . . . is not an invariable requirement, but merely one example of how a mathematical algorithm may bring about a useful application" and thus achieve a useful, concrete, and tangible result. 172 F.3d at 1358. This analysis, too, can no longer be relied on. Maj. op. at 20 n.19.

The now-discarded criterion of a "useful, concrete, and tangible result" has proved to be of ready and comprehensible applicability in a large variety of processes of the information and digital ages. The court in *State Street Bank* reinforced the thesis that there is no reason, in statute or policy, to exclude computer-implemented and information-based inventions from access to patentability. The holdings and reasoning of *Alappat* and *State Street Bank* guided [\*992] the inventions of the electronic age into the patent system, while remaining faithful to the *Diehr* distinction between abstract ideas such as mathematical formulae and their application in a particular [\*136] process for a specified purpose. And patentability has always required compliance with all of the requirements of the statute, including novelty, non-obviousness, utility, and the provisions of Section 112.

***The public has relied on the rulings of this court and of the Supreme Court***

The decisions in *Alappat* and *State Street Bank* confirmed the patent eligibility of many evolving areas of commerce, as inventors and investors explored new technological capabilities. The public and the economy have experienced extraordinary advances in information-based and computer-managed processes, supported by an enlarging patent base. The PTO reports

that in Class 705, the examination classification associated with "business methods" and most likely to receive inventions that may not use machinery or transform physical matter, there were almost 10,000 patent applications filed in FY 2006 alone, and over 40,000 applications filed since FY 98 when *State Street Bank* was decided. See Wynn W. Coggins, USPTO, Update on Business Methods for the Business Methods Partnership Meeting 6 (2007) (hereinafter "PTO Report"), available at <http://www.uspto.gov/web/menu/pbmethod/partnership.pps>. An amicus in the present [\*137] case reports that over 15,000 patents classified in Class 705 have issued. See Br. of Amicus Curiae Accenture, at 22 n.20. <sup>4</sup> The industries identified with information-based and data-handling processes, as several amici curiae explain and illustrate, include fields as diverse as banking and finance, insurance, data processing, industrial engineering, and medicine.

4 The PTO recognizes that patents on "business methods" have been eligible subject matter for two centuries. See USPTO White Paper 2 ("Financial patents in the paper-based technologies have been granted continuously for over two hundred years.").

Stable law, on which industry can rely, is a foundation of commercial advance into new products and processes. Inventiveness in the computer and information services fields has placed the United States in a position of technological and commercial preeminence. The information technology industry is reported to be "the key factor responsible for reversing the 20-year productivity slow-down from the mid-1970s to the mid-1990s and in driving today's robust productivity growth." R.D. Atkinson & A.S. McKay, *Digital Prosperity: Understanding the Economic Benefits of the Information Technology* [\*138] *Revolution 10* (Info. Tech. & Innovation Found. 2007), available at [http://www.itif.org/files/digital\\_prosperity.pdf](http://www.itif.org/files/digital_prosperity.pdf). By revenue estimates, in 2005 the software and information sectors constituted the fourth largest industry in the United States, with significantly faster growth than the overall U.S. economy. Software & Info. Indus. Ass'n, *Software and Information: Driving the Knowledge Economy* 7-8 (2008), <http://www.siia.net/estore/globecon-08.pdf>. A Congressional Report in 2006 stated:

As recently as 1978, intangible assets, such as intellectual property, accounted for 20 percent of corporate assets with the vast majority of value (80 percent) attributed to tangible assets such as facilities and equipment. By 1997, the trend reversed; 73 percent of corporate assets were intangible and only 27 percent were tangible.

H.R. Rep. No. 109-673 (accompanying a bill concerning judicial resources).

This powerful economic move toward "intangibles" is a challenge to the backward-looking change of this court's ruling [\*993] today. Until the shift represented by today's decision, statute and precedent have provided stability in the rapidly moving and commercially vibrant fields of the Information Age. Despite [\*139] the economic importance of these interests, the consequences of our decision have not been considered. I don't know how much human creativity and commercial activity will be devalued by today's change in law; but neither do my colleagues.

The Section 101 interpretation that is now uprooted has the authority of years of reliance, and ought not be disturbed absent the most compelling reasons. "Considerations of stare decisis have special force in the area of statutory interpretation, for here, unlike in the context of constitutional interpretation, the legislative power is implicated, and Congress remains free to alter what [the courts] have done." *Shepard v. United States*, 544 U.S. 13, 23, 125 S. Ct. 1254, 161 L. Ed. 2d 205 (2005) (quoting *Patterson v. McLean Credit Union*, 491 U.S. 164, 172-73, 109 S. Ct. 2363, 105 L. Ed. 2d 132 (1989)); see also *Hilton v. S.C. Pub. Res. Comm'n*, 502 U.S. 197, 205, 112 S. Ct. 560, 116 L. Ed. 2d 560 (1991) (in cases of statutory interpretation the importance of adhering to prior rulings is "most compelling"). Where, as here, Congress has not acted to modify the statute in the many years since *Diehr* and the decisions of this court, the force of stare decisis is even stronger. See *Shepard*, 544 U.S. at 23.

Adherence to settled law, resulting in settled expectations, [\*140] is of particular importance "in cases involving property and contract rights, where reliance interests are involved." *Payne v. Tennessee*, 501 U.S. 808, 828, 111 S. Ct. 2597, 115 L. Ed. 2d 720 (1991);



see also *United States v. Title Ins. & Trust Co.*, 265 U.S. 472, 486, 44 S. Ct. 621, 68 L. Ed. 1110 (1924) (declining to overrule precedent where prior ruling "has become a rule of property, and to disturb it now would be fraught with many injurious results"). This rationale is given no weight by my colleagues, as this court gratuitously disrupts decades of law underlying our own rulings. The only announced support for today's change appears to be the strained new reading of Supreme Court quotations. But this court has previously read these decades-old opinions differently, without objection by either Congress or the Court. My colleagues do not state a reason for their change of heart. See Benjamin N. Cardozo, *The Nature of the Judicial Process* 149 (1921) ("[T]he labor of judges would be increased almost to the breaking point if every past decision could be reopened in every case, and one could not lay one's own course of bricks on the secure foundation of the courses laid by others who had gone before him.").

It is the legislature's role to change the [\*\*141] law if the public interest so requires. In *Chakrabarty* the Court stated: "The choice we are urged to make is a matter of high policy for resolution within the legislative process after the kind of investigation, examination, and study that legislative bodies can provide and courts cannot." 447 U.S. at 317; see also *Flook*, 437 U.S. 595 ("Difficult questions of policy concerning the kinds of programs that may be appropriate for patent protection and the form and duration of such protection can be answered by Congress on the basis of current empirical data not equally available to this tribunal.").

It is, however, the judicial obligation to assure a correct, just, and reliable judicial process, and particularly to respect the principles of *stare decisis* in an area in which prior and repeated statutory interpretations have been relied upon by others. See, e.g., *Shepard*, 544 U.S. at 23 [\*994] ("[T]he claim to adhere to case law is generally powerful once a decision has settled statutory meaning."); *Hilton*, 502 U.S. at 202 ("Adherence to precedent promotes stability, predictability, and respect for judicial authority."); *Payne*, 501 U.S. at 827 ("Stare decisis is the preferred course because it promotes [\*\*142] the evenhanded, predictable, and consistent development of legal principles, fosters reliance on judicial decisions, and contributes to the actual and perceived integrity of the judicial process."). These considerations appear to be abandoned.

### *Uncertain guidance for the future*

Not only past expectations, but future hopes, are disrupted by uncertainty as to application of the new restrictions on patent eligibility. For example, the court states that even if a process is "tied to" a machine or transforms matter, the machine or transformation must impose "meaningful limits" and cannot constitute "insignificant extra-solution activity". Maj. op. at 24. We are advised that transformation must be "central to the purpose of the claimed process," *id.*, although we are not told what kinds of transformations may qualify, *id.* at 25-26. These concepts raise new conflicts with precedent.

This court and the Supreme Court have stated that "there is no legally recognizable or protected 'essential' element, 'gist' or 'heart' of the invention in a combination patent." *Allen Eng'g Corp. v. Bartell Industries, Inc.*, 299 F.3d 1336, 1345 (Fed. Cir. 2002) (quoting *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 345, 81 S. Ct. 599, 5 L. Ed. 2d 592, 1961 Dec. Comm'r Pat. 635 (1961)). [\*\*143] This rule applies with equal force to process patents, see *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1548 (Fed. Cir. 1983) (there is no gist of the invention rule for process patents), and is in accord with the rule that the invention must be considered as a whole, rather than "dissected," in assessing its patent eligibility under Section 101, see *Diehr*, 450 U.S. at 188. It is difficult to predict an adjudicator's view of the "invention as a whole," now that patent examiners and judges are instructed to weigh the different process components for their "centrality" and the "significance" of their "extra-solution activity" in a Section 101 inquiry.

As for whether machine implementation will impose "meaningful limits in a particular case," the "meaningfulness" of computer usage in the great variety of technical and informational subject matter that is computer-facilitated is apparently now a flexible parameter of Section 101. Each patent examination center, each trial court, each panel of this court, will have a blank slate on which to uphold or invalidate claims based on whether there are sufficient "meaningful limits", or whether a transformation is adequately "central," [\*\*144] or the "significance" of process steps. These qualifiers, appended to a novel test which itself is neither suggested nor supported by statutory text, legislative history, or judicial precedent, raise more questions than they answer. These new standards add delay, uncertainty,

and cost, but do not add confidence in reliable standards for Section 101.

Other aspects of the changes of law also contribute uncertainty. We aren't told when, or if, software instructions implemented on a general purpose computer are deemed "tied" to a "particular machine," for if Alappat's guidance that software converts a general purpose computer into a special purpose machine remains applicable, there is no need for the present ruling. For the thousands of inventors who obtained patents under the court's now-discarded [\*995] criteria, their property rights are now vulnerable.

The court also avoids saying whether the State Street Bank and AT&T v. Excel inventions would pass the new test. The drafting of claims in machine or process form was not determinative in those cases, for "we consider the scope of §101 to be the same regardless of the form--machine or process--in which a particular claim is drafted." AT&T v. Excel, 172 F.3d at 1357. [\*\*145] From either the machine or the transformation viewpoint, the processing of data representing "price, profit, percentage, cost, or loss" in State Street Bank is not materially different from the processing of the Bilski data representing commodity purchase and sale prices, market transactions, and risk positions; yet Bilski is held to fail our new test, while State Street is left hanging. The uncertainty is illustrated in the contemporaneous decision of *In re Comiskey*, 499 F.3d 1365, 1378-79 (Fed. Cir. 2007), where the court held that "systems that depend for their operation on human intelligence alone" to solve practical problems are not within the scope of Section 101; and *In re Nuijten*, 500 F.3d 1346, 1353-54 (Fed. Cir. 2007), where the court held that claims to a signal with an embedded digital watermark encoded according to a given encoding process were not directed to statutory subject matter under Section 101, although the claims included "physical but transitory forms of signal transmission such as radio broadcasts, electrical signals through a wire, and light pluses through a fiber-optic cable."

Although this uncertainty may invite some to try their luck in court, the wider [\*\*146] effect will be a disincentive to innovation-based commerce. For inventors, investors, competitors, and the public, the most grievous consequence is the effect on inventions not made or not developed because of uncertainty as to patent protection. Only the successes need the patent right.

***The Bilski invention has not been examined for patentability***

To be patentable, Bilski's invention must be novel and non-obvious, and the specification and claims must meet the requirements of enablement, description, specificity, best mode, etc. See 35 U.S.C. §101 ("Whoever invents or discovers a new and useful process . . . may obtain a patent therefor, subject to the conditions and requirements of this title."); *Diehr*, 450 U.S. at 190 (the question of whether an invention is novel is distinct from whether the subject matter is statutory); *State Street Bank*, 149 F.3d at 1377 ("Whether the patent's claims are too broad to be patentable is not to be judged under §101, but rather under §§102, 103, and 112."). I don't know whether Bilski can meet these requirements--but neither does this court, for the claims have not been examined for patentability, and no rejections apart from Section 101 are included [\*\*147] in this appeal.

Instead, the court states the "true issue before us" is "whether Applicants are seeking to claim a fundamental principle (such as an abstract idea) or mental process," maj. op. at 7, and answers "yes." With respect, that is the wrong question, and the wrong answer. Bilski's patent application describes his process of analyzing the effects of supply and demand on commodity prices and the use of a coupled transaction strategy to hedge against these risks; this is not a fundamental principle or an abstract idea; it is not a mental process or a law of nature. It is a "process," set out in successive steps, for obtaining and analyzing information and carrying out a series of commercial transactions for the purpose of "managing the consumption risk costs of a commodity [\*996] sold by a commodity provider at a fixed price." Claim 1, preamble.

Because the process Bilski describes employs complex mathematical calculations to assess various elements of risk, any practicable embodiment would be conducted with the aid of a machine--a programmed computer--but the court holds that since computer-implementation is not recited in claim 1, for that reason alone the process fails the "machine" [\*\*148] part of the court's machine-or-transformation test. Maj. op. at 24. And the court holds that since Bilski's process involves the processing of data concerning commodity prices and supply and demand and other risk factors, the process fails the "transformation" test because no "physical objects or substances" are transformed. Maj. op. at 28-29. The court then concludes that because

Bilski's Claim 1 fails the machine-or-transformation test it ipso facto preempts a "fundamental principle" and is thereby barred from the patent system under Section 101: an illogical leap that displays the flaws in the court's analysis.

If a claim is unduly broad, or if it fails to include sufficient specificity, the appropriate ground of rejection is Section 112, for claims must "particularly point out and distinctly claim[]" the invention. See *In re Vaack*, 947 F.2d 488, 495-96 (Fed. Cir. 1991) (affirming rejection under Section 112 where "[t]here is no reasonable correlation between the narrow disclosure in applicant's specification and the broad scope of protection sought in the claims"); *In re Foster*, 438 F.2d 1011, 1016, 58 C.C.P.A. 1001 (C.C.P.A. 1971) (claims "not commensurate with appellants' own definition of what [\*\*149] they are seeking to cover" are rejected under Section 112, rather than Section 101); *In re Prater*, 415 F.2d at 1403-04 (applying Section 112 to claims that included mental steps). The filing of a broader claim than is supported in the specification does not convert the invention into an abstraction and evict the application from eligibility for examination. A broad first claim in a patent application is routine; it is not the crisis event postulated in the court's opinion.

The role of examination is to determine the scope of the claims to which the applicant is entitled. See 37 C.F.R. §1.104(a). The PTO's regulations provide:

On taking up an application for examination or a patent in a reexamination proceeding, the examiner shall make a thorough study thereof and shall make a thorough investigation of the available prior art relating to the subject matter of the claimed invention. The examination shall be complete with respect to both compliance of the application or patent under reexamination with the applicable statutes and rules and to the patentability of the invention as claimed, as well as with respect to matters of form, unless otherwise indicated.

*Id.* §1.104(a)(1). The Manual [\*\*150] of Patent Examining Procedure (MPEP) similarly instructs the examiners to conduct a "thorough search of the prior art" before evaluating the invention under Section 101. MPEP

§2106(III) (8th ed., rev. 7, July. 2008) ("Prior to evaluating the claimed invention under 35 U.S.C. §101, USPTO personnel are expected to conduct a thorough search of the prior art."). The MPEP also requires examiners to identify all grounds of rejection in the first official PTO action to avoid unnecessary delays in examination. *Id.* §2106(II) ("Under the principles of compact prosecution, each claim should be reviewed for compliance with every statutory requirement for patentability in the initial review of the application, even if one or more claims are found to be deficient with respect to some statutory requirement."). I note that this [\*\*997] requirement does not appear to have been here met.

Several amici curiae referred to the difficulties that the PTO has reported in examining patents in areas where the practice has been to preserve secrecy, for published prior art is sparse. The Federal Trade Commission recognized that the problem of "questionable" patents stems mostly from "the difficulty patent examiners can [\*\*151] have in considering all the relevant prior art in the field and staying informed about the rapid advance of computer science." FTC, *To Promote Innovation: The Proper Balance of Competition & Patent Law and Policy* at ch. 3, pp. 44 (Oct. 2003), available at <http://www.ftc.gov/os/2003/10/innovationrpt.pdf>. However, this problem seems to be remedied, for the PTO reported in 2007 that for Class 705, "[t]he cases the examiners are now working on have noticeably narrower claims" than the cases filed in or before FY 2000. PTO Report at 9. The PTO reports that its search fields have been enlarged, staff added, and supervision augmented. FTC Report at ch. 1, p. 30. ("Since the PTO introduced [these changes] the allowance rate for business method patents has decreased, and the PTO believes that this decreased allowance rate indicates improved PTO searches for prior art."). If this court's purpose now is to improve the quality of issued patents by eliminating access to patenting for large classes of past, present, and future inventions, the remedy would appear to be excessive.

A straightforward, efficient, and ultimately fair approach to the evaluation of "new and useful" processes--quoting Section 101--is [\*\*152] to recognize that a process invention that is not clearly a "fundamental truth, law of nature, or abstract idea" is eligible for examination for patentability. I do not suggest that basic scientific discoveries are a proper subject matter of

patents (the Court in Chakrabarty mentioned  $E=mc^2$  and the law of gravity), and I do not attempt an all-purpose definition of the boundary between scientific theory and technological application. But it is rare indeed that a question arises at the boundary of basic science; more usual is the situation illustrated by Samuel Morse's telegraph, in which the Court simply held that Morse's general claim was "too broad," exceeding the scope of his practical application.

Bilski's process for determining risk in commodity transactions does not become an abstraction because it is broadly claimed in his first claim. It may be claimed so broadly that it reads on the prior art, but it is neither a fundamental truth nor an abstraction. Bilski's ten other claims contain further details and limitations, removing them farther from abstraction. Although claim 1 may have been deemed "representative" with respect to Section 101, the differences among the claims may [\*\*153] be significant with respect to Sections 102, 103, and 112. Bilski's application, now pending for eleven years, has yet to be examined for patentability.

## CONCLUSION

In sum, the text of Section 101, its statutory history, its interpretation by the Supreme Court, and its application by the courts, contravene this court's redefinition of the statutory term "process." The court's decision affects present and future rights and incentives, and usurps the legislative role. The judicial role is to support stability and predictability in the law, with fidelity to statute and precedent, and respect for the principles of stare decisis.

Patents provide an incentive to invest in and work in new directions. In *United States v. Line Material Co.*, 333 U.S. 287, 332, 68 S. Ct. 550, 92 L. Ed. 701 (1948), Justice Burton, joined by Chief Justice [\*\*998] Vinson and Justice Frankfurter, remarked that "the frontiers of science have expanded until civilization now depends largely upon discoveries on those frontiers to meet the infinite needs of the future. The United States, thus far, has taken a leading part in making those discoveries and in putting them to use." This remains true today. It is antithetical to this incentive to restrict eligibility [\*\*154] for patenting to what has been done in the past, and to foreclose what might be done in the future.

MAYER, Circuit Judge, dissenting.

The en banc order in this case asked: "Whether it is appropriate to reconsider *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368 (Fed. Cir. 1998), and *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352 (Fed. Cir. 1999), in this case and, if so, whether those cases should be overruled in any respect?" I would answer that question with an emphatic "yes." The patent system is intended to protect and promote advances in science and technology, not ideas about how to structure commercial transactions. Claim 1 of the application of Bernard L. Bilski and Rand A. Warsaw ("Bilski") is not eligible for patent protection because it is directed to a method of conducting business. Affording patent protection to business methods lacks constitutional and statutory support, serves to hinder rather than promote innovation and usurps that which rightfully belongs in the public domain. *State Street* and *AT&T* should be overruled.

## I.

In discussing the scope of copyright protection, the Supreme Court has noted that "a page of history is worth [\*\*155] a volume of logic." *Eldred v. Ashcroft*, 537 U.S. 186, 200, 123 S. Ct. 769, 154 L. Ed. 2d 683 (2003) (quoting *New York Trust Co. v. Eisner*, 256 U.S. 345, 349, 41 S. Ct. 506, 65 L. Ed. 963, T.D. 3267 (1921)). The same holds true with respect to patent protection. From a historical perspective, it is highly unlikely that the framers of the Constitution's intellectual property clause intended to grant patent protection to methods of conducting business. To the contrary, "those who formulated the Constitution were familiar with the long struggle over monopolies so prominent in English history, where exclusive rights to engage even in ordinary business activities were granted so frequently by the Crown for the financial benefits accruing to the Crown only." In *re Yuan*, 188 F.2d 377, 380, 38 C.C.P.A. 967, 1951 Dec. Comm'r Pat. 286 (CCPA 1951). The Statute of Monopolies,<sup>1</sup> enacted in 1624, curtailed the Crown's ability to grant "monopolies to court favorites in goods or businesses which had long before been enjoyed by the public." *Graham v. John Deere Co.*, 383 U.S. 1, 5, 86 S. Ct. 684, 15 L. Ed. 2d 545 (1966). When drafting the Constitution, the framers were well aware of the abuses that led to the English Statute of Monopolies and therefore "consciously acted to bar Congress from granting letters patent in particular types of business." In *re Comiskey*, 499 F.3d 1365, 1375 (Fed. Cir. 2007); [\*\*156] see also Malla Pollack, *The Multiple*

Unconstitutionality of Business Method Patents: Common Sense, Congressional Consideration, and Constitutional History, 28 Rutgers Computer & Tech. L.J. 61, 90 (2002) ("[T]he ratifying generation did not agree to invention patents on advances in [\*999] trade itself, because trade monopolies were odious.").

1 The Statute of Monopolies "grew out of abuses in the grant of exclusive franchises in various lines of business such as trading cards, alehouses and various staple products." Robert P. Merges, *As Many as Six Impossible Patents Before Breakfast: Property Rights for Business Concepts and Patent System Reform*, 14 Berkeley Tech. L.J. 577, 585 (1999).

There is nothing in the early patent statutes to indicate that Congress intended business methods to constitute patentable subject matter. See Patent Act of 1790 § 4, 1 Stat. 109, 111 (1790); Patent Act of 1793 § 1, 1 Stat. 318, 319 (1793); Pollack, *supra* at 106 ("[I]f any nation was ripe for invention patents on business methods, it was the newly freed colonies of British North America. . . . [H]owever, no business method patents seem to have been granted."). As early as 1869, the Commissioner of Patents said [\*157] that "[i]t is contrary . . . to the spirit of the law, as construed by the office for many years, to grant patents for methods of book-keeping," *Ex parte Abraham*, 1869 Dec. Comm'r Pat. 59, 59 (1869), and by 1893 the courts had concluded that "a method of transacting common business . . . does not seem to be patentable as an art," *United States Credit Sys. Co. v. Am. Credit Indem. Co.*, 53 F. 818, 819, 1893 Dec. Comm'r Pat. 292 (C.C.S.D.N.Y. 1893), *aff'd* on other grounds, 59 F. 139 (2d Cir. 1893). By 1952, when Congress enacted the current Patent Act, it was widely acknowledged that methods of doing business were ineligible for patent protection. See, e.g., *Loew's Drive-In Theatres, Inc. v. Park-In Theatres, Inc.*, 174 F.2d 547, 552 (1st Cir. 1949) ("[A] system for the transaction of business . . . however novel, useful, or commercially successful is not patentable apart from the means for making the system practically useful, or carrying it out."); *In re Patton*, 127 F.2d 324, 29 C.C.P.A. 982, 1942 Dec. Comm'r Pat. 426 (CCPA 1942) (noting that "a system of transacting business, apart from the means for carrying out such system" is not patentable); *Hotel Sec. Checking Co. v. Lorraine Co.*, 160 F. 467, 469 (2d Cir. 1908) ("A system of transacting business disconnected [\*158] from the means for carrying out the system is not, within

the most liberal interpretation of the term, an art."); *In re Moeser*, 1906 Dec. Comm'r Pat. 685, 27 App. D.C. 307, 310 (1906) (holding that a system for burial insurance contracts was not patentable because "contracts or proposals for contracts, devised or adopted as a method of transacting a particular class of . . . business, [are] not patentable as an art"); see also 145 Cong. Rec. H6,947 (Aug. 3, 1999) (statement of Rep. Manzullo) ("Before the *State Street Bank and Trust* case . . . it was universally thought that methods of doing or conducting business were not patentable items.").

In passing the 1952 Act, Congress re-enacted statutory language that had long existed,<sup>2</sup> thus signaling its intent to carry forward the body of case law that had developed under prior versions of the statute. Because there is nothing in the language of the 1952 Act, or its legislative history, to indicate that Congress intended to modify the rule against patenting business methods, we must presume that no change in the rule was intended. See, e.g., *Astoria Fed. Sav. & Loan Ass'n v. Solimino*, 501 U.S. 104, 108, 111 S. Ct. 2166, 115 L. Ed. 2d 96 (1991) ("[W]here a common-law principle is well established . . . [\*159] . . . the courts may take it as given that Congress has legislated with an expectation that the principle will apply except when a statutory purpose to the contrary is evident." (citations and internal quotation marks omitted)); *Isbrandtsen Co. v. Johnson*, 343 U.S. 779, 783, 72 S. Ct. 1011, 96 L. Ed. 1294 (1952) ("Statutes which invade the common law . . . are to be read with a presumption favoring the retention of long-established [\*1000] and familiar principles, except when a statutory purpose to the contrary is evident."); see also *In re Schrader*, 22 F.3d 290, 295 (Fed. Cir. 1994) ("When Congress approved the addition of the term 'process' to the categories of patentable subject matter in 1952, it incorporated the definition of 'process' that had evolved in the courts." (footnote omitted)). If Congress had wished to change the established practice of disallowing patents on business methods, it was quite capable of doing so explicitly. See *Parker v. Flook*, 437 U.S. 584, 596, 98 S. Ct. 2522, 57 L. Ed. 2d 451 (1978) (stressing that courts "must proceed cautiously when . . . asked to extend patent rights into areas wholly unforeseen by Congress").

2 Congress did substitute the word "process" for "art" in the 1952 Act, but "[a]nalysis of the eligibility of a claim [\*160] of patent protection for a 'process' did not change with the addition of

that term to § 101." *Diamond v. Diehr*, 450 U.S. 175, 184, 101 S. Ct. 1048, 67 L. Ed. 2d 155 (1981).

State Street's decision to jettison the prohibition against patenting methods of doing business contravenes congressional intent. Because (1) "the framers consciously acted to bar Congress from granting letters patent in particular types of business," *Comiskey*, 499 F.3d at 1375, and (2) Congress evidenced no intent to modify the long-established rule against business method patents when it enacted the 1952 Patent Act, it is hard to fathom how the issuance of patents on business methods can be supported.

## II.

Business method patents have been justified, in significant measure, by a misapprehension of the legislative history of the 1952 Patent Act. In particular, proponents of such patents have asserted that the Act's legislative history states that Congress intended statutory subject matter to "include anything under the sun that is made by man." *AT&T*, 172 F.3d at 1355 (Fed. Cir. 1999) (citations and internal quotation marks omitted); see also *Diamond v. Chakrabarty*, 447 U.S. 303, 309, 100 S. Ct. 2204, 65 L. Ed. 2d 144 (1980). Read in context, however, the legislative history says no such [\*\*161] thing. The full statement from the committee report reads: "A person may have 'invented' a machine or a manufacture, which may include anything under the sun that is made by man, but it is not necessarily patentable under section 101 unless the conditions of the title are fulfilled." S. Rep. No. 1979, 82d Cong., 2d Sess. 5 (1952) (emphasis added); H.R. Rep. No. 1923, 82d Cong., 2d Sess. 6 (1952) (emphasis added).

This statement does not support the contention that Congress intended "anything under the sun" to be patentable. To the contrary, the language supports the opposite view: a person may have "invented" anything under the sun, but it is "not necessarily patentable" unless the statutory requirements for patentability have been satisfied. Thus, the legislative history oft-cited to support business method patents undercuts, rather than supports, the notion that Congress intended to extend the scope of section 101 to encompass such methods.

Moreover, the cited legislative history is not discussing process claims at all. The quoted language is discussing "machines" and "manufactures;" it is [\*\*162]

therefore surprising that it has been thought a fit basis for allowing patents on business processes.

## III.

The Constitution does not grant Congress unfettered authority to issue patents. See U.S. Const. art. I, § 8.<sup>3</sup> Instead, the [\*\*1001] patent power is a "qualified authority . . . [which] is limited to the promotion of advances in the 'useful arts.'" *Graham*, 383 U.S. at 5; see also *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 127 S. Ct. 1727, 1746, 167 L. Ed. 2d 705 (2007) (reaffirming that patents are designed to promote "the progress of useful arts"). What the framers described as "useful arts," we in modern times call "technology." *Paulik v. Rizkalla*, 760 F.2d 1270, 1276 (Fed. Cir. 1985) (en banc). Therefore, by mandating that patents advance the useful arts, "[t]he Constitution explicitly limited patentability to . . . 'the process today called technological innovation.'" *Comiskey*, 499 F.3d at 1375 (quoting *Paulik*, 760 F.2d at 1276); see also *In re Foster*, 438 F.2d 1011, 58 C.C.P.A. 1001 (CCPA 1971) ("All that is necessary . . . to make a sequence of operational steps a statutory 'process' within 35 U.S.C. § 101 is that it be in the technological arts."); Karl B. Lutz, *Patents and Science: A Clarification of the Patent Clause of the U.S. [\*\*163] Constitution*, 18 Geo. Wash. L. Rev. 50, 54 (1949) ("The term 'useful arts' as used in the Constitution . . . is best represented in modern language by the word 'technology.'"); James S. Sfeekas, *Controlling Business Method Patents: How the Japanese Standard for Patenting Software Could Bring Reasonable Limitations to Business Method Patents in the United States*, 16 Pac. Rim. L. & Pol'y J. 197, 214 (2007) (At the time the Patent Clause was adopted, "the term 'useful arts' was commonly used in contrast to the ideas of the 'liberal arts' and the 'fine arts,' which were well-known ideas in the eighteenth century.").

3 Article I, § 8 provides that "The Congress shall have Power . . . To promote the Progress of Science and useful Arts by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries." The patent power "is the only one of the several powers conferred upon the Congress which is accompanied by a specific statement of the reason for it." *Yuan*, 188 F.2d at 380.

Before *State Street* led us down the wrong path, this court had rightly concluded that patents were designed to

protect technological innovations, not ideas about the best [\*\*164] way to run a business. <sup>4</sup> We had [\*1002] thus rejected as unpatentable a method for coordinating firefighting efforts, *Patton*, 127 F.2d at 326-27, a method for deciding how salesmen should best handle customers, *In re Maucorps*, 609 F.2d 481 (CCPA 1979), and a computerized method for aiding a neurologist in diagnosing patients, *In re Meyer*, 688 F.2d 789 (CCPA 1982). <sup>5</sup> We stated that patentable processes must "be in the technological arts so as to be in consonance with the Constitutional purpose to promote the progress of 'useful arts.'" *In re Musgrave*, 431 F.2d 882, 893, 57 C.C.P.A. 1352 (CCPA 1970) (emphasis added).

4 "[D]espite the assertions in *State Street* and *Schrader*, very few in the patent community believe that business methods have always been patentable. To the contrary, the dominant view is that the law has changed, and that the definition of patentable subject matter is now wider than it once was." R. Carl Moy, *Subjecting Rembrandt to the Rule of Law: Rule-Based Solutions for Determining the Patentability of Business Methods*, 28 Wm. Mitchell L. Rev. 1047, 1060 (2002) (footnotes omitted); see also Rochelle Cooper Dreyfuss, *Are Business Method Patents Bad for Business?*, 16 Santa Clara Computer & High [\*\*165] Tech. L.J. 263, 265-66 (2000) (*State Street* gave "judicial recognition to business method patents."). Over the course of two centuries, a few patents issued on what could arguably be deemed methods of doing business, see, e.g., U.S. Patent No. 5,664,115 ("Interactive Computer System to Match Buyers and Sellers of Real Estate, Businesses and Other Property Using the Internet"), but these patents were aberrations and the general rule, prior to *State Street*, was that methods of engaging in business were ineligible for patent protection. See *Comiskey*, 499 F.3d at 1374 (noting that "[a]t one time, '[t]hough seemingly within the category of process or method, a method of doing business [was] rejected as not being within the statutory classes.'" (quoting *State Street*, 149 F.3d at 1377)). One commentator has noted that although the United States Patent and Trademark Office ("USPTO") "in an attempt to deflect criticism [has] issued an apologia . . . asserting that business method patents are as old as the United States patent system," this document is fundamentally flawed.

See Pollack, *supra* at 73-75. She explains:

The USPTO wants us to believe that it found no records of patents whose points [\*\*166] of invention were business methods, because no one had time to invent any new business methods until the human race had run its mechanical ingenuity to the peak of computer software; seemingly we were all too busy inventing the computer to think about anything else—especially new ways of doing business. I thought that we granted patents because, otherwise, people would be too busy making money by running businesses to take time out to invent anything except business methods. The USPTO [document], furthermore, is eliding the printed matter exception to patentable subject matter with the business method exception.

*Id.* at 75 (footnote omitted).

5 The claims in *Patton* were explicitly rejected on the basis that they were directed to a business method, while the claims in *Maucorps* and *Meyer* were rejected as attempts to patent mathematical algorithms. Subsequently, however, this court stated that the claimed processes in *Maucorps* and *Meyer* were directed toward business systems and should therefore not be considered patent eligible. *In re Alappat*, 33 F.3d 1526, 1541 (Fed. Cir. 1994) (en banc). We noted that "*Maucorps* dealt with a business methodology for deciding how salesmen should best handle [\*\*167] respective customers and *Meyer* involved a 'system' for aiding a neurologist in diagnosing patients. Clearly, neither of the alleged 'inventions' in those cases falls within any § 101 category." *Id.*

Business method patents do not promote the "useful arts" because they are not directed to any technological or scientific innovation. Although business method applications may use technology--such as computers--to accomplish desired results, the innovative aspect of the claimed method is an entrepreneurial rather than a technological one. Thus, although *Bilski's* claimed

hedging method could theoretically be implemented on a computer, that alone does not render it patentable. See *Diehr*, 450 U.S. at 192 n.14 (Patentability cannot be established by the "token" use of technology.); *Gottschalk v. Benson*, 409 U.S. 63, 64-66, 93 S. Ct. 253, 34 L. Ed. 2d 273 (1972) (finding unpatentable a method of programming a general purpose digital computer to convert signals from binary-coded decimal to pure binary form). Where a claimed business method simply uses a known machine to do what it was designed to do, such as using a computer to gather data or perform calculations, use of that machine will not bring otherwise unpatentable subject [\*\*168] matter within the ambit of section 101. See *Benson*, 409 U.S. at 67 (finding a process unpatentable where "[t]he mathematical procedures [could] be carried out in existing computers long in use, no new machinery being necessary").

Although the Supreme Court has not directly addressed the patentability of business methods, several of its decisions implicitly tether patentability to technological innovation. See *Pfaff v. Wells Elecs., Inc.*, 525 U.S. 55, 63, 119 S. Ct. 304, 142 L. Ed. 2d 261 (1998) ("[T]he patent system represents a carefully crafted bargain that encourages both the creation and the public disclosure of new and useful advances in technology, in return for an exclusive monopoly for a limited period of time." (emphasis added)); *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 390, 116 S. Ct. 1384, 134 L. Ed. 2d 577 (1996) ("Congress created the Court of Appeals for the Federal Circuit as an exclusive appellate court for patent cases . . . observing that increased uniformity would strengthen the United States patent system in such a way as to foster technological growth and industrial innovation." (citations and internal quotation marks omitted) (emphasis added)); *Benson*, 409 U.S. at 71 (refusing to "freeze [the patentability [\*\*1003] of] process [\*\*169] patents to old technologies, leaving no room for the revelations of the new, onrushing technology" (emphases added)). Indeed, the Supreme Court has repeatedly emphasized that what renders subject matter patentable is "the application of the law of nature to a new and useful end." *Funk Bros. Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127, 130, 68 S. Ct. 440, 92 L. Ed. 588, 1948 Dec. Comm'r Pat. 671 (1948); see *Diehr*, 450 U.S. at 188 n.11; *Benson*, 409 U.S. at 67.<sup>6</sup> Applying laws of nature to new and useful ends is nothing other than "technology."<sup>7</sup> See, e.g., *Microsoft Computer Dictionary* 513 (5th ed. 2002) (The definition of "technology" is the "application of science and

engineering to the development of machines and procedures in order to enhance or improve human conditions."); *American Heritage Dictionary of the English Language* 1777 (4th ed. 2000) ("Technology" is the "application of science, especially to industrial or commercial objectives."); see also *Sfekas*, *supra* at 214-15 ("The [Supreme] Court's holdings in *Benson* and *Diehr* are really stating a requirement that inventions must be technological."); *Schwartz*, *supra* at 357 (The "clear and consistent body of Supreme Court case law establishes that the term 'invention' encompasses anything [\*\*170] made by man that utilizes or harnesses one or more 'laws of nature' for human benefit."). As the Supreme Court has made clear, "the act of invention . . . consists neither in finding out the laws of nature, nor in fruitful research as to the operation of natural laws, but in discovering how those laws may be utilized or applied for some beneficial purpose, by a process, a device or a machine." *United States v. Dubilier Condenser Corp.*, 289 U.S. 178, 188, 53 S. Ct. 554, 77 L. Ed. 1114, 1933 Dec. Comm'r Pat. 574 (1933).

6 Laws of nature are those laws pertaining to the "natural sciences," such as biology, chemistry, or physics. See, e.g., *Webster's New International Dictionary* 1507 (3d ed. 2002) ("Natural sciences" are the "branches of science ([such] as physics, chemistry, [or] biology) that deal with matter, energy, and their interrelations and transformations or with objectively measured phenomena."). They must be distinguished from other types of law, such as laws of economics or statutory enactments. Laws of nature do not involve "judgments on human conduct, ethics, morals, economics, politics, law, aesthetics, etc." *Musgrave*, 431 F.2d at 890; see also Joy Y. Xiang, *How Wide Should the Gate of "Technology" Be? Patentability of Business Methods [\*\*171] in China*, 11 *Pac. Rim L. & Pol'y J.* 795, 807 (2002) (noting that State Street's "'useful, concrete and tangible result' test is inconsistent with the 'application of the law of nature' patent eligibility scope outlined by the U.S. Supreme Court and [the Federal Circuit prior to State Street]").

7 One commentator notes that both Japan and the Republic of Korea explicitly define an "invention" as the application of a law of nature, and argues that the United States should follow a similar approach to patentability. See Andrew A.



Schwartz, *The Patent Office Meets the Poison Pill: Why Legal Methods Cannot be Patented*, 20 Harv. J. Law & Tech. 333, 357 (2007).

Methods of doing business do not apply "the law of nature to a new and useful end." Because the innovative aspect of such methods is an entrepreneurial rather than a technological one, they should be deemed ineligible for patent protection. See, e.g., John R. Thomas, *The Patenting of the Liberal Professions*, 40 B.C. L. Rev. 1139 (1999) (arguing that affording patentability to business methods opens the door to obtaining patent protection for all aspects of human thought and behavior, and that patents should remain grounded in science [\*\*172] and technology) (hereinafter "Thomas (1999)"). "[T]he primary purpose of our patent laws is not the creation of private fortunes for the owners of patents but is 'to promote the progress of science and useful arts.'" *Motion Picture Patents Co. v. Universal Film Mfg. Co.*, 243 U.S. 502, 511, 37 S. Ct. 416, 61 L. Ed. 871, 1917 Dec. Comm'r Pat. 391 (1917). Although business

method patents may do much to enrich their owners, they do little to promote scientific research and technological innovation.

#### IV.

State Street has launched a legal tsunami, inundating the patent office with applications seeking protection for common business practices.<sup>8</sup> Applications for Class 705 (business method) patents increased from fewer than 1,000 applications in 1997 to more than 11,000 applications in 2007. See United States Patent and Trademark Office, *Class 705 Application Filings and Patents Issued Data*, available at <http://www.uspto.gov/web/menu/pbmethod/applicationfilings.htm> (information available as of Jan. 2008); see Douglas L. Price, *Assessing the Patentability of Financial Services and Products*, 3 J. High Tech. L. 141, 153 (2004) ("The State Street case has opened the floodgates on business method patents.").

<sup>8</sup> Congress has acted to ameliorate some of the negative [\*\*173] effects of granting patents on methods of doing business. It passed the American Inventors Protection Act (commonly referred to as the First Inventor Defense Act) which provides an affirmative defense against a business method patent infringement action if the

defendant "acting in good faith, actually reduced the subject matter to practice at least 1 year before the effective filing date of such patent, and commercially used the subject matter before the effective filing date of such patent." See 35 U.S.C. § 273. Even where a defendant may qualify for this defense, however, he "still must engage in expensive litigation where [he] bears the burden of affirmatively raising and proving the defense." See Nicholas A. Smith, *Business Method Patents and Their Limits: Justifications, History, and the Emergence of A Claim Construction Jurisprudence*, 9 Mich. Telecomm. & Tech. L. Rev. 171, 199 (2002).

Patents granted in the wake of State Street have ranged from the somewhat ridiculous to the truly absurd. See, e.g., U.S. Patent No. 5,851,117 (method of training janitors to dust and vacuum using video displays); U.S. Patent No. 5,862,223 (method for selling expert advice); U.S. Patent No. 6,014,643 [\*\*174] (method for trading securities); U.S. Patent No. 6,119,099 (method of enticing customers to order additional food at a fast food restaurant); U.S. Patent No. 6,329,919 (system for toilet reservations); U.S. Patent No. 7,255,277 (method of using color-coded bracelets to designate dating status in order to limit "the embarrassment of rejection"). There has even been a patent issued on a method for obtaining a patent. See U.S. Patent No. 6,049,811. Not surprisingly, State Street and its progeny have generated a thundering chorus of criticism. See Leo J. Raskind, *The State Street Bank Decision: The Bad Business of Unlimited Patent Protection for Methods of Doing Business*, 10 Fordham Intell. Prop. Media & Ent. L.J. 61, 61 (1999) ("The Federal Circuit's recent endorsement of patent protection for methods of doing business marks so sweeping a departure from precedent as to invite a search for its justification."); Pollack, *supra* at 119-20 (arguing that State Street was based upon a misinterpretation of both the legislative history and the language of section 101 and that "business method patents are problematical both socially and constitutionally"); Price, *supra* at 155 ("The fall out from [\*\*175] State Street has created a goldrush mentality toward patents and litigation in which companies . . . gobble up patents on anything and everything . . . It is a mad rush to get as many dumb patents as possible." (citations and internal quotation marks omitted)); Thomas (1999), *supra* at 1160 ("After State Street, it is hardly an exaggeration to say that if you can name it, you can claim it."); Sfekas, *supra* at 226

("[T]he U.S. courts [\*1005] have set too broad a standard for patenting business methods. . . . These business method patents tend to be of lower quality and are unnecessary to achieve the goal of encouraging innovation in business."); William Krause, *Sweeping the E-Commerce Patent Minefield: The Need for a Workable Business Method Exception*, 24 *Seattle U. L. Rev.* 79, 101 (2000) (State Street "opened up a world of unlimited possession to anyone quick enough to take a business method and put it to use via computer software before anyone else."); Moy, *supra* at 1051 ("To call [the situation following State Street] distressing is an understatement. The consensus . . . appears to be that patents should not be issuing for new business methods.").

There are a host of difficulties associated [\*\*176] with allowing patents to issue on methods of conducting business. Not only do such patents tend to impede rather than promote innovation, they are frequently of poor quality. Most fundamentally, they raise significant First Amendment concerns by imposing broad restrictions on speech and the free flow of ideas.

#### A.

"[T]he underlying policy of the patent system [is] that 'the things which are worth to the public the embarrassment of an exclusive patent,' . . . must outweigh the restrictive effect of the limited patent monopoly." *Graham*, 383 U.S. at 10-11 (quoting letter from Thomas Jefferson to Isaac McPherson (Aug. 1813)). Thus, Congress may not expand the scope of "the patent monopoly without regard to the . . . advancement or social benefit gained thereby." *Id.* at 6.

Patents should be granted to those inventions "which would not be disclosed or devised but for the inducement of a patent." *Id.* at 11. Methods of doing business have existed since the earliest days of the Patent Act and have flourished even in the absence of patent protection. See Brian P. Biddinger, *Limiting the Business Method Patent: A Comparison and Proposed Alignment of European, Japanese and United States Patent Law*, [\*\*177] 69 *Fordham L. Rev.* 2523, 2544-50 (2001). Commentators have argued that "the broad grant of patent protection for methods of doing business is something of a square peg in a sinkhole of uncertain dimensions" since "[n]owhere in the substantial literature on innovation is there a statement that the United States economy suffers from a lack of innovation in methods of doing business."

Raskind, *supra* at 92-93. Instead, "the long history of U.S. business is one of innovation, emulation, and innovation again. It also is a history of remarkable creativity and success, all without business method patents until the past few years." Smith, *supra* at 178; see also Sfekas, *supra* at 213 ("While innovation in business methods is a good thing, it is likely that there would be the same level of innovation even without patents on [such methods].").

Business innovations, by their very nature, provide a competitive advantage and thus generate their own incentives. See Xiang, *supra* at 813 ("A business entity improves the way it does business in order to be more effective and efficient, to stay ahead of [the] competition, and to make more profit."). The rapid "growth of fast food restaurants, self-service [\*\*178] gasoline stations, quick oil change facilities . . . automatic teller devices . . . and alternatives for long-distance telephone services" casts real doubt about the need for the additional incentive of patent protection in the commercial realm. Raskind, *supra* at 93.

Although patents are not a prerequisite to business innovation, they are of undeniable importance in promoting technological advances. For example, the pharmaceutical [\*1006] industry relies on patent protection in order to recoup the large sums it invests to develop life-saving and life-enhancing drugs:

[T]he "fully loaded" cost of developing a single new pharmaceutical molecule, taking it through laboratory and clinical trials, and securing FDA approval for its marketing is today about \$ 800 million (including the cost of project failures). Furthermore, fewer than one in five drug candidates that make it out of the laboratory survive this tortuous process and reach the marketplace in the form of FDA-approved pharmaceuticals. . . . Only patent protection can make the innovator's substantial investment in development and clinical testing economically rational.

Jay Dratler, Jr., *Alice in Wonderland Meets the U.S. Patent System*, 38 *Akron L. Rev.* 299, 313-14 (2005) [\*\*179] (footnotes omitted).

Business method patents, unlike those granted for pharmaceuticals and other products, offer rewards that

are grossly disproportionate to the costs of innovation. In contrast to technological endeavors, business innovations frequently involve little or no investment in research and development. *Bilski*, for example, likely spent only nominal sums to develop his hedging method. The reward he could reap if his application were allowed--exclusive rights over methods of managing risks in a wide array of commodity transactions--vastly exceeds any costs he might have incurred in devising his "invention."

## B.

"[S]ometimes too much patent protection can impede rather than 'promote the Progress of Science and useful Arts,' the constitutional objective of patent and copyright protection." *Lab. Corp. of Am. Holdings v. Metabolite Labs., Inc.*, 548 U.S. 124, 126, 126 S. Ct. 2921, 165 L. Ed. 2d 399 (2006) (Breyer, J., joined by Stevens and Souter, JJ., dissenting from dismissal of writ of certiorari) (emphasis in original). This is particularly true in the context of patents on methods of conducting business. Instead of providing incentives to competitors to develop improved business techniques, business method patents [\*180] remove building blocks of commercial innovation from the public domain. *Dreyfuss*, *supra* at 275-77. Because they restrict competitors from using and improving upon patented business methods, such patents stifle innovation. When "we grant rights to exclude unnecessarily, we . . . limit competition with no quid pro quo. Retarding competition retards further development." *Pollack*, *supra* at 76. "Think how the airline industry might now be structured if the first company to offer frequent flyer miles had enjoyed the sole right to award them or how differently mergers and acquisitions would be financed . . . if the use of junk bonds had been protected by a patent." *Dreyfuss*, *supra* at 264. By affording patent protection to business practices, "the government distorts the operation of the free market system and reduces the gains from the operation of the market." *Sfekas*, *supra* at 214.

It is often consumers who suffer when business methods are patented. See *Raskind*, *supra* at 82. Patented products are more expensive because licensing fees are often passed on to consumers. See *Lois Matelan*, *The Continuing Controversy Over Business Method Patents*, 18 *Fordham Intell. Prop. Med. & Ent. L.J.* 189, 201 [\*181] (2007). Further, as a general matter, "quantity and quality [of patented products] are less than they

would be in a competitive market." *Dreyfuss*, *supra* at 275.

[\*1007] Patenting business methods makes American companies less competitive in the global marketplace. American companies can now obtain exclusionary rights on methods of conducting business, but their counterparts in Europe and Japan generally cannot. See *Biddinger*, *supra* at 2546-47. Producing products in the United States becomes more expensive because American companies, unlike their overseas counterparts, must incur licensing fees in order to use patented business methods:

[O]nce a [\*182] United States patent application for a new method of doing business becomes publicly available, companies in Europe and Japan may begin using the method outside the United States, while American companies in competition with the patentee would be unable to use the method in the United States without incurring licensing fees. The result is that companies outside of the United States receive the benefit of the novel method without incurring either the research and development costs of the inventor, or the licensing fees of the patentee's American competitors.

*Id.* at 2545-46.

## C.

Another significant problem that plagues business method patents is that they tend to be of poor overall quality. See *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 397, 126 S. Ct. 1837, 164 L. Ed. 2d 641 (2006) (Kennedy, J., joined by Stevens, Souter, and Breyer, JJ., concurring) (noting the "potential vagueness and suspect validity" of some of "the burgeoning number of patents over business methods"). Commentators have lamented "the frequency with which the Patent Office issues patents on shockingly mundane business inventions." *Dreyfuss*, *supra* at 268; see also *Pollack*, *supra* at 106 ("[M]any of the recently-issued business method patents are facially [\*183] (even farcically) obvious to persons outside the USPTO."). One reason for the poor quality of business method patents is the lack of readily accessible prior art references. Because business methods were not

patentable prior to State Street, "there is very little patent-related prior art readily at hand to the examiner corps." Dreyfuss, *supra* at 269.

Furthermore, information about methods of conducting business, unlike information about technological endeavors, is often not documented or published in scholarly journals. See Russell A. Korn, *Is Legislation the Answer? An Analysis of the Proposed Legislation for Business Method Patents*, 29 Fla. St. U.L. Rev. 1367, 1372-73 (2002). The fact that examiners lack the resources to weed out undeserving applications "has led to the improper approval of a large number of patents, leaving private parties to clean up the mess through litigation." Krause, *supra* at 97.

Allowing patents to issue on business methods shifts critical resources away from promoting and protecting truly useful technological advances. As discussed previously, the patent office has been deluged with business method applications in recent years. Time spent on such applications [\*\*184] is time not spent on applications which claim true innovations. When already overburdened examiners are forced to devote significant time to reviewing large numbers of business method applications, the public's access to new and beneficial technologies is unjustifiably delayed.

#### D.

Patenting business methods allows private parties to claim exclusive ownership of ideas and practices which rightfully belong in the public domain. "It is a matter of public interest that [economic] decisions, in the aggregate, be intelligent and well [\*1008] informed. To this end, the free flow of commercial information is indispensable." *Virginia State Bd. of Pharmacy v. Virginia Citizens Consumer Council, Inc.*, 425 U.S. 748, 765, 96 S. Ct. 1817, 48 L. Ed. 2d 346 (1976). Thus, "the stringent requirements for patent protection seek to assure that ideas in the public domain remain there for the free use of the public." *Aronson v. Quick Point Pencil Co.*, 440 U.S. 257, 262, 99 S. Ct. 1096, 59 L. Ed. 2d 296 (1979).

Bilski's claimed method consists essentially of two conversations. The first conversation is between a commodity provider and a commodity consumer, while the second conversation is between the provider and "market participants" who have "a [\*\*185] counter-risk position to . . . consumers." His claims provide almost no

details as to the contents of these conversations.

Like many business method applications, Bilski's application is very broadly drafted. It covers a wide range of means for "hedging" in commodity transactions. If his application were allowed, anyone who discussed ways to balance market risks in any sort of commodity could face potential infringement liability. By adopting overly expansive standards for patentability, the government enables private parties to impose broad and unwarranted burdens on speech and the free flow of ideas. See Thomas F. Cotter, *A Burkean Perspective on Patent Eligibility*, 22 Berkeley Tech. L.J. 855, 880-82 (2007) (arguing that overly expansive patent eligibility standards can result in the granting of patents that threaten free speech, privacy and other constitutionally-protected rights); John R. Thomas, *The Future of Patent Law: Liberty and Property in the Patent Law*, 39 Hous. L. Rev. 569, 589 (2002) (arguing that "the patent law allows private actors to impose more significant restraints on speech than has ever been possible through copyright"); see also *Cent. Hudson Gas & Elec. Corp. v. Pub. Serv. Comm'n of New York*, 447 U.S. 557, 569-70, 100 S. Ct. 2343, 65 L. Ed. 2d 341 (1980) [\*\*186] (The First Amendment mandates that restrictions on free speech in commercial transactions be "no more extensive than necessary.").

To the extent that business methods are deemed patentable, individuals can face unexpected potential infringement liability for everyday conversations and commercial interactions. "[I]mplicit in the Patent Clause itself [is the understanding] that free exploitation of ideas will be the rule, to which the protection of a federal patent is the exception." *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 151, 109 S. Ct. 971, 103 L. Ed. 2d 118 (1989). In the wake of State Street, too many patent holders have been allowed to claim exclusive ownership of subject matter that rightfully belongs in the public domain.

#### V.

The majority's proposed "machine-or-transformation test" for patentability will do little to stem the growth of patents on non-technological methods and ideas. Quite simply, in the context of business method patent applications, the majority's proposed standard can be too easily circumvented. See Cotter, *supra* at 875 (noting that the physical transformation test for patentability can be problematic because "[i]n a material universe, every

process will cause some sort of [\*\*187] physical transformation, if only at the microscopic level or within the human body, including the brain"). Through clever draftsmanship, nearly every process claim can be rewritten to include a physical transformation. Bilski, for example, could simply add a requirement that a commodity consumer install a meter to record commodity consumption. He could then argue that installation [\*1009] of this meter was a "physical transformation," sufficient to satisfy the majority's proposed patentability test.

Even as written, Bilski's claim arguably involves a physical transformation. Prior to utilizing Bilski's method, commodity providers and commodity consumers are not involved in transactions to buy and sell a commodity at a fixed rate. By using Bilski's claimed method, however, providers and consumers enter into a series of transactions allowing them to buy and sell a particular commodity at a particular price. Entering into a transaction is a physical process: telephone calls are made, meetings are held, and market participants must physically execute contracts. Market participants go from a state of not being in a commodity transaction to a state of being in such a transaction. The majority, however, [\*\*188] fails to explain how this sort of physical transformation is insufficient to satisfy its proposed patent eligibility standard.

The majority suggests that a technological arts test is nothing more than a "short-cut" for its machine-or-transformation test. Ante at 29. To the contrary, however, the two tests are fundamentally different. Consider U.S. Patent No. 7,261,652, which is directed to a method of putting a golf ball, U.S. Patent No. 6,368,227, which is directed to a method of swinging on a swing suspended on a tree branch, and U.S. Patent No. 5,443,036, which is directed to a method of "inducing cats to exercise." Each of these "inventions" involves a physical transformation that is central to the claimed method: the golfer's stroke is changed, a person on a swing starts swinging, and the sedentary cat becomes a fit feline. Thus, under the majority's approach, each of these inventions is patent eligible. Under a technological arts test, however, none of these inventions is eligible for patent protection because none involves any advance in science or technology.<sup>9</sup>

<sup>9</sup> The majority's approach will encourage rent-seeking on a broad range of human thought

and behavior. For example, because [\*\*189] organizing a country into a democratic or socialist regime clearly involves a physical transformation, what is to prevent patents from issuing on forms of government?

Regardless of whether a claimed process involves a "physical transformation," it should not be patent eligible unless it is directed to an advance in science or technology. See *Benson*, 409 U.S. at 64-71 (finding a process unpatentable even though it "transformed" binary-coded decimals into pure binary numbers using a general purpose computer). Although the Supreme Court has stated that a patentable process will usually involve a transformation of physical matter, see *id.* at 70, it has never found a process patent eligible which did not involve a scientific or technological innovation. See *Diehr*, 450 U.S. at 192-93 (finding a process patentable where it involved new technology for curing rubber).

The majority refuses to inject a technology requirement into the section 101 analysis because it believes that the terms "technological arts" and "technology" are "ambiguous." See ante at 21. To the contrary, however, the meaning of these terms is not particularly difficult to grasp. "The need to apply some sort of 'technological [\*\*190] arts' criterion has hardly led other countries' and regions' patent systems to grind to a halt; it is hard to see why it should be an insurmountable obstacle for ours." *Cotter*, supra at 885. As discussed more fully in section III, a claimed process is technological to the extent it applies laws of nature to new ends. See *Benson*, 409 U.S. at 67 ("If there is to be invention from . . . a discovery, it [\*1010] must come from the application of the law of nature to a new and useful end." (quoting *Funk Bros.*, 333 U.S. at 130)). By contrast, a process is non-technological where its inventive concept is the application of principles drawn not from the natural sciences but from disciplines such as business, law, sociology, or psychology. See *Thomas* (1999), supra at 1168 ("[F]ew of us would suppose that inventions within the domain of business, law or fine arts constitute technology, much less patentable technology."). The inventive aspect of Bilski's claimed process is the application of business principles, not laws of nature; it is therefore non-technological and ineligible for patent protection.

Unlike a technological standard for patentability, the majority's proposed test will be exceedingly [\*\*191]

difficult to apply. The standard that the majority proposes for inclusion in the patentability lexicon--"transformation of any physical object or substance, or an electronic signal representative of any physical object or substance," ante at 28--is unnecessarily complex and will only lead to further uncertainty regarding the scope of patentable subject matter. As noted in *In re Nuijten*, 500 F.3d 1346, 1353 (Fed. Cir. 2007), defining the term "physical" can be an "esoteric and metaphysical" inquiry. Indeed, although this court has struggled for years to set out what constitutes sufficient physical transformation to render a process patentable, we have yet to provide a consistent or satisfactory resolution of this issue.

We took this case en banc in a long-overdue effort to resolve primal questions on the metes and bounds of statutory subject matter. The patent system has run amok, and the USPTO, as well as the larger patent community, has actively sought guidance from this court in making sense of our section 101 jurisprudence. See Supplemental Br. of Appellee at 3 ("[The Federal Circuit] should clarify the meaning of *State Street* and *AT&T*, as they have been too often misunderstood."); [\*\*192] Br. of Fin. Serv. Indus. at 1 ("The rise of [business method patents] in recent years has . . . led to uncertainty over the scope of the patents granted and, more fundamentally, the definition of patentable subject matter itself. [We] seek a workable standard defining the scope of patentable subject matter, one that . . . provides clear guidance to the Patent and Trademark Office . . . and the public."); Br. of Samuelson Law, Tech. and Public Policy Clinic at 1 ("Ever since *State Street*, the [USPTO] has been flooded with applications for a wide variety of non-technological 'inventions' such as arbitration methods, dating methods, tax-planning methods, legal methods, and novel-writing methods. These applications have eroded public confidence in the patent system and driven up the cost and decreased the return for applicants seeking legitimate technological patents." (footnote omitted)); Br. of Assoc. of Am. Medical Colleges at 29 (arguing that "broad swaths of the public and certain industry sectors" have lost respect for the patent system and that "[the Federal Circuit] should act, even if its actions mean unsettling the settled expectations of some"). The majority, however, fails [\*\*193] to enlighten three of the thorniest issues in the patentability thicket: (1) the continued viability of business method patents, (2) what constitutes sufficient physical transformation or machine-implementation to render a process patentable, and (3) the extent to which computer software and computer-implemented processes

constitute statutory subject matter. The majority's "measured approach" to the section 101 analysis, see ante at 25, will do little to restore public confidence in the patent system or stem the growth of patents on [\*1011] business methods and other non-technological ideas.

## VI.

Where the advance over the prior art on which the applicant relies to make his invention patentable is an advance in a field of endeavor such as law (like the arbitration method in *Comiskey*), business (like the method claimed by *Bilski*) or other liberal--as opposed to technological--arts, the application falls outside the ambit of patentable subject matter. The time is ripe to repudiate *State Street* and to recalibrate the standards for patent eligibility, thereby ensuring that the patent system can fulfill its constitutional mandate to protect and promote truly useful innovations in science and technology. [\*\*194] I dissent from the majority's failure to do so.

RADER, Circuit Judge dissenting.

This court labors for page after page, paragraph after paragraph, explanation after explanation to say what could have been said in a single sentence: "Because *Bilski* claims merely an abstract idea, this court affirms the Board's rejection." If the only problem of this vast judicial tome were its circuitous path, I would not dissent, but this venture also disrupts settled and wise principles of law.

Much of the court's difficulty lies in its reliance on dicta taken out of context from numerous Supreme Court opinions dealing with the technology of the past. In other words, as innovators seek the path to the next tech no-revolution, this court ties our patent system to dicta from an industrial age decades removed from the bleeding edge. A direct reading of the Supreme Court's principles and cases on patent eligibility would yield the one-sentence resolution suggested above. Because this court, however, links patent eligibility to the age of iron and steel at a time of subatomic particles and terabytes, I must respectfully dissent.

## I

The Patent Law of the United States has always embodied the philosophy that "ingenuity [\*\*195] should receive a liberal encouragement." Writings of Thomas Jefferson 75-76 (Washington ed. 1871); see also

*Diamond v. Chakrabarty*, 447 U.S. 303, 308-09, 100 S. Ct. 2204, 65 L. Ed. 2d 144 (1980). True to this principle, the original Act made "any new and useful art, machine, manufacture or composition of matter" patent eligible. Act of Feb. 21, 1793, ch. 11, § 1, 1 Stat. 318 (emphasis supplied). Even as the laws have evolved, that bedrock principle remains at their foundation. Thus, the Patent Act from its inception focused patentability on the specific characteristics of the claimed invention--its novelty and utility--not on its particular subject matter category.

The modern incarnation of section 101 holds fast to that principle, setting forth the broad categories of patent eligible subject matter, and conditioning patentability on the characteristics, not the category, of the claimed invention:

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.

35 U.S.C. § 101 (2006) (emphases supplied). As I have suggested, the Supreme Court requires [\*\*196] this court to rely on the "ordinary, contemporary, common meaning" of these words. *Diamond v. Diehr*, 450 U.S. 175, 182, 101 S. Ct. 1048, 67 L. Ed. 2d 155 (1981). If this court would follow that Supreme Court rule, it would afford broad patent protection to new and [\*1012] useful inventions that fall within the enumerated categories and satisfy the other conditions of patentability. That is, after all, precisely what the statute says.

In *Diehr*, the Supreme Court adopted a very useful algorithm for determining patentable subject matter, namely, follow the Patent Act itself. After setting forth the procedural history of that case, the Supreme Court stated: "In cases of statutory construction, we begin with the language of the statute." *Diehr*, 450 U.S. at 182. With an eye to the *Benson* language (so central to this court's reasoning) that "[t]ransformation and reduction of an article 'to a different state or thing' is the clue to the patentability of a process claim that does not include particular machines," *Gottschalk v. Benson*, 409 U.S. 63, 72, 93 S. Ct. 253, 34 L. Ed. 2d 273 (1972), the Court then noted:

[I]n dealing with the patent laws, we have more than once cautioned that "courts 'should not read into the patent laws limitations and conditions which the legislature [\*\*197] has not expressed.'"

*Diehr*, 450 U.S. at 182 (citations omitted). Indeed section 101's term "process" contains no hint of an exclusion for certain types of methods. This court today nonetheless holds that a process is eligible only if it falls within certain subsets of "process." Ironically the Patent Act itself specifically defines "process" without any of these judicial innovations. 35 U.S.C. § 100(b). Therefore, as *Diehr* commands, this court should refrain from creating new circuitous judge-made tests.

Read in context, section 101 gives further reasons for interpretation without innovation. Specifically, section 101 itself distinguishes patent eligibility from the conditions of patentability--providing generously for patent eligibility, but noting that patentability requires substantially more. The language sweeps in "any new and useful process . . . [and] any improvement." 35 U.S.C. § 101 (emphasis supplied). As an expansive modifier, "any" embraces the broad and ordinary meanings of the term "process," for instance. The language of section 101 conveys no implication that the Act extends patent protection to some subcategories of processes but not others. It does not mean "some" or [\*\*198] even "most," but all.

Unlike the laws of other nations that include broad exclusions to eligible subject matter, such as European restrictions on software and other method patents, see European Patent Convention of 1973, Art. 52(2)(c) and (3), and prohibitions against patents deemed contrary to the public morality, see *id.* at Art. 53(a), U.S. law and policy have embraced advances without regard to their subject matter. That promise of protection, in turn, fuels the research that, at least for now, makes this nation the world's innovation leader.

## II

With all of its legal sophistry, the court's new test for eligibility today does not answer the most fundamental question of all: why would the expansive language of section 101 preclude protection of innovation simply because it is not transformational or properly linked to a machine (whatever that means)? Stated even more simply, why should some categories of invention deserve

no protection?

This court, which reads the fine print of Supreme Court decisions from the Industrial Age with admirable precision, misses the real import of those decisions. The Supreme Court has answered the fundamental question above many times. The Supreme Court has [\*\*199] counseled that the only limits on eligibility are inventions that embrace natural laws, natural phenomena, and abstract ideas. See, e.g., *Diehr*, 450 U.S. at 185 ("This Court [\*1013] has undoubtedly recognized limits to § 101 and every discovery is not embraced within the statutory terms. Excluded from such patent protection are laws of nature, natural phenomena, and abstract ideas."). In *Diehr*, the Supreme Court's last pronouncement on eligibility for "processes," the Court said directly that its only exclusions from the statutory language are these three common law exclusions: "Our recent holdings . . . stand for no more than these long-established principles." *Id.* at 185.

This point deserves repetition. The Supreme Court stated that all of the transformation and machine linkage explanations simply restated the abstractness rule. In reading *Diehr* to suggest a non-statutory transformation or preemption test, this court ignores the Court's admonition that all of its recent holdings do no more than restate the natural laws and abstractness exclusions. *Id.*; see also *Chakrabarty*, 447 U.S. at 310 ("Here, by contrast, the patentee has produced a new bacterium with markedly different characteristics [\*\*200] from any found in nature and one having the potential for significant utility. His discovery is not nature's handiwork, but his own; accordingly it is patentable subject matter under § 101."); *Parker v. Flook*, 437 U.S. 584, 591-594, 98 S. Ct. 2522, 57 L. Ed. 2d 451 (1978) ("Even though a phenomenon of nature or mathematical formula may be well known, an inventive application of the principle may be patented. Conversely, the discovery of such a phenomenon cannot support a patent unless there is some other inventive concept in its application."); *In re Taner*, 681 F.2d 787, 791 (C.C.P.A. 1982) ("In *Diehr*, the Supreme Court made clear that *Benson* stands for no more than the long-established principle that laws of nature, natural phenomena, and abstract ideas are excluded from patent protection.").

The abstractness and natural law preclusions not only make sense, they explain the purpose of the expansive language of section 101. Natural laws and phenomena

can never qualify for patent protection because they cannot be invented at all. After all, God or Allah or Jahveh or Vishnu or the Great Spirit provided these laws and phenomena as humanity's common heritage. Furthermore, abstract ideas can never qualify for patent protection [\*\*201] because the Act intends, as section 101 explains, to provide "useful" technology. An abstract idea must be applied to (transformed into) a practical use before it qualifies for protection. The fine print of Supreme Court opinions conveys nothing more than these basic principles. Yet this court expands (transforms?) some Supreme Court language into rules that defy the Supreme Court's own rule.

When considering the eligibility of "processes," this court should focus on the potential for an abstract claim. Such an abstract claim would appear in a form that is not even susceptible to examination against prior art under the traditional tests for patentability. Thus this court would wish to ensure that the claim supplied some concrete, tangible technology for examination. Indeed the hedging claim at stake in this appeal is a classic example of abstractness. *Bilski's* method for hedging risk in commodities trading is either a vague economic concept or obvious on its face. Hedging is a fundamental economic practice long prevalent in our system of commerce and taught in any introductory finance class. In any event, this facially abstract claim does not warrant the creation of new eligibility [\*\*202] exclusions.

### III

This court's willingness to venture away from the statute follows on the heels of an [\*1014] oft-discussed dissent from the Supreme Court's dismissal of its grant of certiorari in *Lab. Corp. of Am. Holdings v. Metabolite Labs., Inc.*, 548 U.S. 124, 126 S. Ct. 2921, 165 L. Ed. 2d 399 (2006). That dissent is premised on a fundamental misapprehension of the distinction between a natural phenomenon and a patentable process.

The distinction between "phenomena of nature," "mental processes," and "abstract intellectual concepts" is not difficult to draw. The fundamental error in that *Lab Corp.* dissent is its failure to recognize the difference between a patent ineligible relationship--i.e., that between high homocysteine levels and folate and cobalamin deficiencies--and a patent eligible process for applying that relationship to achieve a useful, tangible, and concrete result--i.e., diagnosis of potentially fatal conditions in patients. Nothing abstract here. Moreover,



testing blood for a dangerous condition is not a natural phenomenon, but a human invention.

The distinction is simple but critical: A patient may suffer from the unpatentable phenomenon of nature, namely high homocysteine levels and low folate. But the invention [\*\*203] does not attempt to claim that natural phenomenon. Instead the patent claims a process for assaying a patient's blood and then analyzing the results with a new process that detects the life-threatening condition. Moreover, the sick patient does not practice the patented invention. Instead the patent covers a process for testing blood that produces a useful, concrete, and tangible result: incontrovertible diagnostic evidence to save lives. The patent does not claim the patent ineligible relationship between folate and homocysteine, nor does it foreclose future inventors from using that relationship to devise better or different processes. Contrary to the language of the dissent, it is the sick patient who "embod[ies] only the correlation between homocysteine and vitamin deficiency," *Lab. Corp.*, 548 U.S. at 137, not the claimed process.

From the standpoint of policy, the *Lab Corp.* dissent avoids the same fundamental question that the Federal Circuit does not ask or answer today: Is this entire field of subject matter undeserving of incentives for invention? If so, why? In the context of *Lab. Corp.* that question is very telling: the natural condition diagnosed by the invention is debilitating [\*\*204] and even deadly. See U.S. Patent No. 4,940,658, col. 1, ll. 32-40 ("Accurate and early diagnosis of cobalamin and folate deficiencies . . . is important because these deficiencies can lead to life-threatening hematologic abnormalities . . . . Accurate and early diagnosis of cobalamin deficiency is especially important because it can also lead to incapacitating and life-threatening neuropsychiatric abnormalities."). Before the invention featured in *Lab Corp.*, medical science lacked an affordable, reliable, and fast means to detect this debilitating condition. Denial of patent protection for this innovation--precisely because of its elegance and simplicity (the chief aims of all good science)--would undermine and discourage future research for diagnostic tools. Put another way, does not Patent Law wish to encourage researchers to find simple blood tests or urine tests that predict and diagnose breast cancers or immunodeficiency diseases? In that context, this court might profitably ask whether its decisions incentivize research for cures and other important technical advances. Without such attention, this court inadvertently

advises investors that they should divert their unprotectable [\*\*205] investments away from discovery of "scientific relationships" within the body that diagnose breast cancer or Lou Gehrig's disease or Parkinson's or whatever.

#### [\*1015] IV

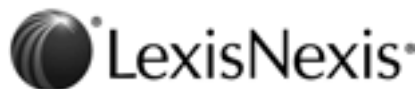
In sum, this court today invents several circuitous and unnecessary tests. It should have merely noted that *Bilski* attempts to patent an abstract idea. Nothing more was needed. Instead this opinion propagates unanswerable questions: What form or amount of "transformation" suffices? When is a "representative" of a physical object sufficiently linked to that object to satisfy the transformation test? (e.g., Does only vital sign data taken directly from a patient qualify, or can population data derived in part from statistics and extrapolation be used?) What link to a machine is sufficient to invoke the "or machine" prong? Are the "specific" machines of *Benson* required, or can a general purpose computer qualify? What constitutes "extra-solution activity?" If a process may meet eligibility muster as a "machine," why does the Act "require" a machine link for a "process" to show eligibility? Does the rule against redundancy itself suggest an inadequacy in this complex spider web of tests supposedly "required" by the language of section 101?

One [\*\*206] final point, reading section 101 as it is written will not permit a flurry of frivolous and useless inventions. Even beyond the exclusion for abstractness, the final clause of section 101--"subject to the conditions and requirements of this title"--ensures that a claimed invention must still satisfy the "conditions and requirements" set forth in the remainder title 35. *Id.* These statutory conditions and requirements better serve the function of screening out unpatentable inventions than some vague "transformation" or "proper machine link" test.

In simple terms, the statute does not mention "transformations" or any of the other Industrial Age descriptions of subject matter categories that this court endows with inordinate importance today. The Act has not empowered the courts to impose limitations on patent eligible subject matter beyond the broad and ordinary meaning of the terms process, machine, manufacture, and composition of matter. It has instead preserved the promise of patent protection for still unknown fields of invention.

Innovation has moved beyond the brick and mortar world. Even this court's test, with its caveats and winding explanations seems to recognize this. Today's [\*\*207] software transforms our lives without physical anchors. This court's test not only risks hobbling these advances, but precluding patent protection for tomorrow's technologies. "We still do not know one thousandth of

one percent of what nature has revealed to us." Attributed to Albert Einstein. If this court has its way, the Patent Act may not incentivize, but complicate, our search for the vast secrets of nature. When all else fails, consult the statute.



1 of 2 DOCUMENTS

**E.S.S. ENTERTAINMENT 2000, INC., d/b/a PLAYPEN, Plaintiff-Appellant, v.  
ROCK STAR VIDEOS, INC., e/s/a ROCKSTAR GAMES, INC.; TAKE-TWO  
INTERACTIVE SOFTWARE, INC., Defendants-Appellees.**

**No. 06-56237**

**UNITED STATES COURT OF APPEALS FOR THE NINTH CIRCUIT**

**547 F.3d 1095; 2008 U.S. App. LEXIS 23294; 88 U.S.P.Q.2D (BNA) 1691**

**March 5, 2008, Argued and Submitted, Pasadena, California  
November 5, 2008, Filed**

**PRIOR HISTORY:** [\*\*1]

Appeal from the United States District Court for the Central District of California. D.C. No. CV-05-02966-MMM. Margaret M. Morrow, District Judge, Presiding.

E.S.S. Entm't 2000, Inc. v. Rock Star Videos, Inc., 444 F. Supp. 2d 1012, 2006 U.S. Dist. LEXIS 57575 (C.D. Cal., 2006)

**DISPOSITION:** AFFIRMED.

**COUNSEL:** Robert F. Helfing, Sedgwick, Detert, Moran & Arnold LLP, Los Angeles, California, for the plaintiff-appellant; David A. Schinder, Sedgwick, Detert, Moran & Arnold LLP, Los Angeles, California, and Ernest J. Franceschi, Attorney, Los Angeles, California, were on the briefs.

Russell Frackman, Mitchell Silberberg & Knupp LLP, Los Angeles, California, for the defendants-appellees; Karin G. Pagnanelli and Eric J. German were on the brief.

**JUDGES:** Before: John R. Gibson, \* Senior Circuit Judge, Diarmuid F. O'Scannlain and Susan P. Graber, Circuit Judges. Opinion by Judge O'Scannlain.

\* The Honorable John R. Gibson, Senior United States Circuit Judge for the Eighth Circuit, sitting by designation.

**OPINION BY:** Diarmuid F. O'Scannlain

**OPINION**

[\*1096] O'SCANNLAIN, Circuit Judge:

We must decide whether a producer of a video game in the "Grand Theft Auto" series has a defense under the First Amendment against a claim of trademark infringement.

I

A

Rockstar Games, Inc. ("Rockstar"), a wholly owned subsidiary of Take-Two Interactive Software, Inc., manufactures and distributes [\*\*2] the Grand Theft Auto series of video games (the "Series"), including Grand Theft Auto: San Andreas ("San Andreas" or the "Game"). The Series is known for an irreverent and sometimes crass brand of humor, gratuitous violence and sex, and overall seediness.

[\*1097] Each game in the Series takes place in one or more dystopic, cartoonish cities modeled after actual American urban areas. The games always include a disclaimer stating that the locations depicted are fictional. Players control the game's protagonist, trying to complete various "missions" on a video screen. The plot advances with each mission accomplished until the player, having passed through thousands of cartoon-style places along

the way, wins the game.

Consistent with the tone of the Series, San Andreas allows a player to experience a version of West Coast "gangster" culture. The Game takes place in the virtual cities of "Los Santos," "San Fierro," and "Las Venturas," based on Los Angeles, San Francisco, and Las Vegas, respectively.

Los Santos, of course, mimics the look and feel of actual Los Angeles neighborhoods. Instead of "Hollywood," "Santa Monica," "Venice Beach," and "Compton," Los Santos contains "Vinewood," "Santa Maria," [\*\*3] "Verona Beach," and "Ganton." Rockstar has populated these areas with virtual liquor stores, ammunition dealers, casinos, pawn shops, tattoo parlors, bars, and strip clubs. The brand names, business names, and other aspects of the locations have been changed to fit the irreverent "Los Santos" tone. Not especially saintly, Los Santos is complete with gangs who roam streets inhabited by prostitutes and drug pushers while random gunfire punctuates the soundtrack.

To generate their vision for Los Santos, some of the artists who drew it visited Los Angeles to take reference photographs. The artists took pictures of businesses, streets, and other places in Los Angeles that they thought evoked the San Andreas theme. They then returned home (to Scotland) to draw Los Santos, changing the images from the photographs as necessary to fit into the fictional world of Los Santos and San Andreas. According to Nikolas Taylor ("Taylor"), the Lead Map Artist for Los Santos, he and other artists did not seek to "re-creat[e] a realistic depiction of Los Angeles; rather, [they] were creating 'Los Santos,' a fictional city that lampooned the seedy underbelly of Los Angeles and the people, business and places [\*\*4] [that] comprise it." One neighborhood in the fictional city is "East Los Santos," the Game's version of East Los Angeles. East Los Santos contains variations on the businesses and architecture of the real thing, including a virtual, cartoon-style strip club known as the "Pig Pen."

## B

ESS Entertainment 2000, Inc. ("ESS"), operates a strip club, which features females dancing nude, on the eastern edge of downtown Los Angeles under the name Play Pen Gentlemen's Club ("Play Pen"). ESS claims that Rockstar's depiction of an East Los Santos strip club called the Pig Pen infringes its trademark and trade dress

associated with the Play Pen.

The Play Pen's "logo" consists of the words "the Play Pen" (and the lower-and upper-case letters forming those words) and the phrase "Totally Nude" displayed in a publicly available font, with a silhouette of a nude female dancer inside the stem of the first "P." Apparently, ESS has no physical master or precise template for its logo. Different artists draw the nude silhouette in Play Pen's logo anew for each representation, although any final drawing must be acceptable to Play Pen's owners. There are several different versions of the silhouette, and some advertisements [\*\*5] and signs for the Play Pen do not contain the nude silhouettes.

Although the artists took some inspiration from their photographs of the Play Pen, it seems they used photographs of other East Los Angeles locations to design [\*\*1098] other aspects of the Pig Pen. The Pig Pen building in Los Santos, for instance, lacks certain characteristics of the Play Pen building such as a stone facade, a valet stand, large plants and gold columns around the entrance, and a six-foot black iron fence around the parking lot. The Play Pen also has a red, white, and blue pole sign near the premises, which includes a trio of nude silhouettes above the logo and a separate "Totally Nude" sign below. The Pig Pen does not.

## C

On April 22, 2005, ESS filed the underlying trademark violation action in district court against Rockstar. ESS asserted four claims: (1) trade dress infringement and unfair competition under section 43(a) of the Lanham Act, 15 U.S.C. § 1125(a); <sup>1</sup> (2) trademark infringement under California Business and Professions Code § 14320; <sup>2</sup> (3) unfair competition under California Business and Professions Code §§ 17200 et seq.; and (4) unfair competition under California common law. The heart of ESS's complaint [\*\*6] is that Rockstar has used Play Pen's distinctive logo and trade dress without its authorization and has created a likelihood of confusion among consumers as to whether ESS has endorsed, or is associated with, the video depiction.

1 "Trade dress involves the total image of a product and may include features such as size, shape, color or color combination, texture, graphics, or even particular sales technique." *Mattel Inc. v. Walking Mountain Prods.*, 353 F.3d

792, 808 n.13 (9th Cir. 2003) (internal quotation marks and citations omitted). Because the only relevant similarities at issue in this case involve the use of the "Pig Pen" mark versus the "Play Pen" mark, disposition of the trade dress infringement claim follows resolution of the trademark infringement claim. See *Kendall-Jackson Winery, Ltd. v. E. & J. Gallo Winery*, 150 F.3d 1042, 1046 (9th Cir. 1998) ("Section 43(a) now protects both trademarks and trade dress from infringement . . . [and] there is no persuasive reason to apply different analysis [sic] to the two." (internal quotation marks, alteration and citation omitted)).

2 This section has recently been repealed. Cal. Stats. ch. 711 § 1. Since we hold that Rockstar has a defense [\*\*7] to all of ESS's claims, the repeal is irrelevant to our decision.

In response, Rockstar moved for summary judgment on all of ESS's claims, arguing that the affirmative defenses of nominative fair use and the First Amendment protected it against liability. It also argued that its use of ESS's intellectual property did not infringe ESS's trademark by creating a "likelihood of confusion."

Although the district court rejected Rockstar's nominative fair use defense, it granted summary judgment based on the First Amendment defense. The district court did not address the merits of the trademark claim because its finding that Rockstar had a defense against liability made such analysis unnecessary.

## II

Rockstar argues that, regardless of whether it infringed ESS's trademark under the Lanham Act or related California law, it is entitled to two defenses: one under the nominative fair use doctrine and one under the First Amendment.

### A

"Unlike a traditional fair use scenario, [nominative fair use occurs when] the defendant . . . us[es] the trademarked term to describe not its own product, but the plaintiff's." *Playboy Enters., Inc. v. Welles*, 279 F.3d 796, 801 (9th Cir. 2002). The doctrine protects those [\*\*8] who deliberately use another's trademark or trade dress "for the 'purposes of comparison, criticism[,] or point of reference.'" *Walking Mountain*, 353 F.3d at 809

(alteration [\*1099] omitted) (quoting *New Kids on the Block v. News Am. Publ'g, Inc.*, 971 F.2d 302, 306 (9th Cir. 1992)). In this case, however, Rockstar's use of "Pig Pen" is not "identical to the plaintiff's [Play Pen] mark." Furthermore, the district court observed that Rockstar's Lead Map Artist "testified the goal in designing the Pig Pen was . . . not to comment on Play Pen *per se*." Since Rockstar did not use the trademarked logo to describe ESS's strip club, the district court correctly held that the nominative fair use defense does not apply in this case. See *Welles*, 279 F.3d at 801.

### B

Rockstar's second defense asks us to consider the intersection of trademark law and the First Amendment. The road is well traveled. We have adopted the Second Circuit's approach from *Rogers v. Grimaldi*, which "requires courts to construe the Lanham Act 'to apply to artistic works *only* where the public interest in avoiding consumer confusion *outweighs* the public interest in free expression.'" *Walking Mountain*, 353 F.3d at 807 (emphasis in original) [\*\*9] (quoting *Rogers v. Grimaldi*, 875 F.2d 994, 999 (2d Cir. 1989)). The specific test contains two prongs. An artistic work's use of a trademark that otherwise would violate the Lanham Act is not actionable "unless the [use of the mark] has no artistic relevance to the underlying work whatsoever, or, if it has some artistic relevance, unless [it] explicitly misleads as to the source or the content of the work." *Mattel, Inc. v. MCA Records, Inc.*, 296 F.3d 894, 902 (9th Cir. 2002) (quoting *Rogers*, 875 F.2d at 999). Although this test traditionally applies to uses of a trademark in the title of an artistic work, there is no principled reason why it ought not also apply to the use of a trademark in the body of the work. See *Walking Mountain*, 353 F.3d at 809 n.17 (implying that it would be acceptable to apply the *Rogers* test to non-titular trade dress claim). The parties do not dispute such an extension of the doctrine.

### 1

We first adopted the *Rogers* test in *MCA Records*, a case which is instructive for that reason. *MCA Records*, 296 F.3d at 902 ("We agree with the Second Circuit's analysis and adopt the *Rogers* standard as our own."). In *MCA Records*, the maker of the iconic "Barbie" dolls sued [\*\*10] MCA for trademark infringement in the title of a song the record company had released, called "Barbie Girl." *Id.* at 899-900. The song was a commentary "about Barbie and the values . . . she

[supposedly] represents." *Id.* at 902. Applying *Rogers*, the court held that the First Amendment protected the record company. The first prong was straightforward. Because the song was about Barbie, "the use of Barbie in the song title clearly is relevant to the underlying work." *Id.*; see also *Walking Mountain*, 353 F.3d at 807 (holding that use of Barbie doll in photographic parody was relevant to the underlying work).

Moving to the second prong, we made an important point. "The *only* indication," we observed, "that Mattel might be associated with the song is the use of Barbie in the title; if this were enough to satisfy this prong of the *Rogers* test, it would render *Rogers* a nullity." *MCA Records*, 296 F.2d at 902 (emphasis in original). This makes good sense. After all, a trademark infringement claim presupposes a use of the mark. If that necessary element in every trademark case vitiated a First Amendment defense, the First Amendment would provide no defense at all.

2

Keeping *MCA Records* and related [\*11] cases in mind, we now turn to the matter before us. ESS concedes that the Game is artistic and that therefore the *Rogers* test [\*1100] applies. However, ESS argues both that the incorporation of the Pig Pen into the Game has no artistic relevance and that it is explicitly misleading. It rests its argument on two observations: (1) the Game is not "about" ESS's Play Pen club the way that "Barbie Girl" was "about" the Barbie doll in *MCA Records*; and (2) also unlike the Barbie case, where the trademark and trade dress at issue was a cultural icon (Barbie), the Play Pen is not a cultural icon.

ESS's objections, though factually accurate, miss the point. Under *MCA Records* and the cases that followed it, only the use of a trademark with "no artistic relevance to the underlying work *whatsoever*" does not merit First Amendment protection. *Id.* (emphasis added) (quoting *Rogers*, 875 F.2d at 999). In other words, the level of relevance merely must be above zero. It is true that the Game is not "about" the Play Pen the way that Barbie Girl was about Barbie. But, given the low threshold the Game must surmount, that fact is hardly dispositive. It is also true that Play Pen has little cultural significance, [\*12] but the same could be said about most of the individual establishments in East Los Angeles. Like most urban neighborhoods, its distinctiveness lies in its "look and feel," not in particular destinations as in a downtown

or tourist district. And that neighborhood, with all that characterizes it, *is* relevant to Rockstar's artistic goal, which is to develop a cartoon-style parody of East Los Angeles. Possibly the only way, and certainly a reasonable way, to do that is to recreate a critical mass of the businesses and buildings that constitute it. In this context, we conclude that to include a strip club that is similar in look and feel to the Play Pen does indeed have at least "some artistic relevance." See *id.*

3

ESS also argues that Rockstar's use of the Pig Pen "explicitly misleads as to the source or the content of the work." *Id.* (quoting *Rogers*, 875 F.2d at 999). This prong of the test points directly at the purpose of trademark law, namely to "avoid confusion in the marketplace by allowing a trademark owner to prevent others from duping consumers into buying a product they mistakenly believe is sponsored by the trademark owner." *Walking Mountain*, 353 F.3d at 806 (internal quotation [\*13] marks and alteration omitted). The relevant question, therefore, is whether the Game would confuse its players into thinking that the Play Pen is somehow behind the Pig Pen or that it sponsors Rockstar's product. In answering that question, we keep in mind our observation in *MCA Records* that the mere use of a trademark alone cannot suffice to make such use explicitly misleading. See *MCA Records*, 296 F.3d at 902.

Both San Andreas and the Play Pen offer a form of lowbrow entertainment; besides this general similarity, they have nothing in common. The San Andreas Game is not complementary to the Play Pen; video games and strip clubs do not go together like a horse and carriage or, perish the thought, love and marriage. Nothing indicates that the buying public would reasonably have believed that ESS produced the video game or, for that matter, that Rockstar operated a strip club. A player can enter the virtual strip club in Los Santos, but ESS has provided no evidence that the setting is anything but generic. It also seems far-fetched that someone playing San Andreas would think ESS had provided whatever expertise, support, or unique strip-club knowledge it possesses to the production of [\*14] the game. After all, the Game does not revolve around running or patronizing a strip club. Whatever one can do at the Pig Pen seems quite incidental to the overall story of the Game. A reasonable consumer would not think a company that owns one strip club in East Los Angeles, which is not well [\*1101]

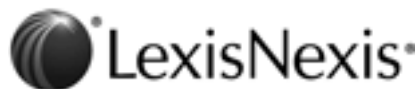
known to the public at large, also produces a technologically sophisticated video game like San Andreas.

Undeterred, ESS also argues that, because players are free to ignore the storyline and spend as much time as they want at the Pig Pen, the Pig Pen can be considered a significant part of the Game, leading to confusion. But fans can spend all nine innings of a baseball game at the hot dog stand; that hardly makes Dodger Stadium a butcher's shop. In other words, the chance to attend a virtual strip club is unambiguously *not* the main selling point of the Game.

### III

Considering all of the foregoing, we conclude that Rockstar's modification of ESS's trademark is not explicitly misleading and is thus protected by the First Amendment. Since the First Amendment defense applies equally to ESS's state law claims as to its Lanham Act claim, the district court properly dismissed the entire case on Rockstar's [\*\*15] motion for summary judgment.

**AFFIRMED.**



2 of 2 DOCUMENTS

**E.S.S. ENTERTAINMENT 2000, INC. dba THE PLAYPEN, Plaintiff, vs. ROCK STAR VIDEOS, INC.; TAKE-TWO INTERACTIVE SOFTWARE, INC., SONY COMPUTER ENTERTAINMENT OF AMERICA, INC; SONY COMPUTER ENTERTAINMENT, INC., Defendants.**

**CASE NO. CV 05-02966 MMM (JTLx)**

**UNITED STATES DISTRICT COURT FOR THE CENTRAL DISTRICT OF CALIFORNIA**

**444 F. Supp. 2d 1012; 2006 U.S. Dist. LEXIS 57575**

**July 28, 2006, Decided**

**July 28, 2006, Filed**

**SUBSEQUENT HISTORY:** Affirmed by E.S.S. Entm't 2000, Inc. v. Rock Star Videos, Inc., 2008 U.S. App. LEXIS 23294 (9th Cir. Cal., Nov. 5, 2008)

**COUNSEL:** [\*\*1] For E S S Entertainment 2000 Inc, doing business as Playpen, Plaintiff: David A Schnider, Robert F Helfing, Roy A Kim, Sedgwick Detert Moran & Arnold, Los Angeles, CA; Ernest J Franceschi, Jr, Ernest J Franceschi Jr Law Offices, Los Angeles, CA.

For Rock Star Videos Inc, Erroneously Sued As Rockstar Games Inc, Take-Two Interactive Software Inc, Defendants: Eric J German, Karin G Pagnanelli, Mark D Litvack, Mitchell Silberberg and Knupp, Los Angeles, CA.

**JUDGES:** MARGARET M. MORROW, UNITED STATES DISTRICT JUDGE.

**OPINION BY:** MARGARET M. MORROW

## **OPINION**

[\*1014] ORDER GRANTING DEFENDANTS' MOTION FOR SUMMARY JUDGMENT

On April 22, 2005, plaintiff E.S.S. Entertainment 2000, Inc. filed this action against defendants Rockstar

Games, Inc.<sup>1</sup> and Take-Two Interactive Software, Inc.<sup>2</sup> Plaintiff, which does business as the Play Pen Gentlemen's Club (the "Play Pen"), operates a club in Los Angeles that provides adult-oriented entertainment. Rockstar Games, which is a wholly-owned subsidiary of Take-Two Interactive, manufactures and distributes a video game known as "Grand Theft Auto: San Andreas." Plaintiff alleges that defendants have used the Play Pen's distinctive logo and trade dress in Grand Theft Auto: San [\*\*2] Andreas without its authorization, and created a likelihood of confusion among consumers as to whether plaintiff has endorsed, or is associated with, the video game. Plaintiff asserts four claims: (1) trade dress infringement and unfair competition under section 43(a) of the Lanham Act, 15 U.S.C. § 1125(a); (2) trademark infringement under California Business and Professions Code § 14320; (3) unfair competition under Business and Professions Code §§ 17200 et. seq.; and (4) unfair competition under California common law.<sup>3</sup>

<sup>1</sup> Rockstar Games, Inc. was erroneously sued as Rock Star Videos, Inc.

<sup>2</sup> The complaint also named Sony Computer Entertainment of America, Inc. and Sony Computer Entertainment, Inc. as defendants. Plaintiff dismissed these parties on May 19, 2005.

<sup>3</sup> The court earlier granted defendants' motion to dismiss plaintiff's claim for trademark dilution



under Business and Professions Code § 14330.

Defendants have moved for summary judgment on all claims.

## I. FACTUAL [\*\*3] BACKGROUND

### A. Background

The Play Pen is a strip club located on the eastern edge of downtown Los Angeles at 1109 S. Santa Fe Avenue.<sup>4</sup> The Play Pen's "logo" consists of the words "the Play Pen" (and the lower-and upper-case [\*1015] letters forming those words) and the words "Totally Nude" displayed in publicly available font, with a silhouette of a nude female dancer inside the stem of the first "P."<sup>5</sup>

4 Separate Statement of Undisputed Facts In Support of Motion of Defendants Rockstar Games, Inc. and Take-Two Interactive Software, Inc. for Summary Judgment ("Defs.' Facts"), PP 1, 2; Separate Statement in Support of Plaintiff's Opposition to Defendants Rockstar Games, Inc. and Take-Two Interactive Software, Inc.'s Motion for Summary Judgment ("Pl.'s Statement"), PP 1, 2.

With their reply, defendants lodged a pleading captioned "Counter-Statement of Undisputed Facts." (See Defendants Rockstar Games, Inc. and Take-Two Interactive Software, Inc.'s Counter-Statement of Undisputed Facts.) Plaintiff objects to consideration of the pleading on the ground that it is not authorized by the Local Rules, and requests that it be stricken. (See Plaintiff's Objection to Defendants Rockstar Games, Inc. and Take-Two Interactive Software, Inc.'s Counter-Statement of Undisputed Fact.) Although the court does not rely on the document, it declines to strike it. The practice of submitting a reply to an opponent's statement of genuine issues is a common one, which is often of great help to the court. See, e.g., *Palacio v. Progressive Ins. Co.*, 244 F.Supp.2d 1040, 1047 (C.D. Cal. 2002); *Galen v. County of Los Angeles*, 322 F.Supp.2d 1045, 1047 (C.D. Cal. 2004).

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5 Defs.' Facts, P 3. In support of this statement, defendants cite plaintiff's Supplemental Response to Interrogatory No. 15, in which it described its

service mark as "comprised of the term PLAYPEN, the font in which those words appear; the configuration of the words, THE PLAYPEN as it appears in signage, and in advertising and promotional materials; the use of the lower-and upper-case letters respecting those words; the use of a silhouette device of a woman in the stem of the first letter 'P' of the word, PLAYPEN." (Declaration of Eric J. German in Support of Motion of Defendants Rockstar Games, Inc. and Take-Two Interactive Software, Inc. for Summary Judgment ("German Decl."), Exh. 6 (Fifth Supplemental Responses of Plaintiff E.S.S. Entertainment 2000, Inc., dba The Playpen to Defendant Rockstar Games, Inc.'s First Set of Interrogatories, Response to Interrogatory No. 15).) Plaintiff disputes defendants' factual statement, but the evidence it cites does not substantiate the existence of a dispute. (See Pl.'s Statement, P 3 (Declaration of Robert F. Helfing in Support of Plaintiff's Opposition to Motion of Defendants Rockstar Games, Inc. and Take-Two Interactive Software, Inc. for Summary Judgment ("Helfing Decl."), Exh. A at 4-6 (photographs showing signage on the building, which has the words "the Play Pen" and "Totally Nude," with a silhouette image of a nude woman in the stem of the first "P"))).

[\*\*5] Rockstar Games is the publisher of the Grand Theft Auto series of video games (the "Series"), including Grand Theft Auto: San Andreas ("San Andreas" or the "Game").<sup>6</sup> The Series is known for its signature brand of humor,<sup>7</sup> and consumers expect new games in the Series to contain the same type of irreverent humor as earlier [\*1016] games.<sup>8</sup>

6 Defs.' Facts, P 4; Pl.'s Statement, P 4.

7 Defs.' Facts, P 5; Pl.'s Statement, P 5. The parties dispute whether the Series' references are "parodic." (*Id.*) Whether the Series or the San Andreas game constitutes a "parody" within the meaning of *Mattel, Inc. v. Walking Mountain Productions*, 353 F.3d 792 (9th Cir. 2003), and similar cases, is a legal question. See *id.* at 801 ("The issue of whether a work is a parody is a question of law, not a matter of public majority opinion. Forsythe correctly points out that Mattel presents no case law in support of its contention that the parodic nature of a defendant's work

should be assessed using surveys and opinion testimony. Forsythe is further correct that every court to address the issue whether a defendant's work qualifies as a parody has treated this question as one of law to be decided by the court," citing *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 582-83, 114 S. Ct. 1164, 127 L. Ed. 2d 500 (1994), *Leibovitz v. Paramount Pictures Corp.*, 137 F.3d 109, 114-15 (2d Cir. 1998), and *Dr. Seuss Enterprises, L.P. v. Penguin Books USA, Inc.*, 109 F.3d 1394, 1400-01 (9th Cir. 1997) ("[U]nless the plaintiff's copyrighted work is at least in part the target of the defendants' satire, then the defendant's work is not a 'parody' in the *legal sense* . . ." (emphasis added by *Walking Mountain*)). Therefore, this dispute does not raise a genuine issue of material fact.

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8 Defs.' Facts, P 6; Pl.'s Statement, P 6. The parties disagree as to whether consumers expect new games in the Series to be "parodic." See *supra*, n. 7.

Each game in the Series is typically set in a cartoon-style city modeled after a real-world urban center such as New York and Miami.<sup>9</sup> To play San Andreas, or one of the other games in the Series, players manipulate the story's protagonist and attempt to have him accomplish a series of "missions."<sup>10</sup> Players must complete the missions to advance the plot and ultimately win the game.<sup>11</sup> While plaintiff does not dispute that a player must complete set missions to "win," it contends that games in the Series can be played without undertaking the missions.<sup>12</sup>

9 Defs.' Facts, P 8; Pl.'s Statement, P 8. The only point of dispute is whether the Series "parodies" real-world locations. See *supra*, n. 7.

10 Defs.' Facts, P 7; Pl.'s Statement, P 7.

11 Defs.' Facts, P 9. See Declaration of Rowan Hajaj in Support of Motion of Defendants Rockstar Games, Inc. and Take-Two Interactive Software, Inc. for Summary Judgment ("Hajaj Decl."), P 3 ("Players explore the city while performing the 'missions' to advance the plot and to 'win' the game").

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12 Pl.'s Statement, P 9. See Declaration of David A. Schnider in Opposition to Defendants' Motion for Summary Judgment ("Schnider Decl."), P 6

("[P]layers need not even undertake the missions, but can simply direct the lead character in the commission of violent crimes"), P 12 ("I played the Game for approximately 45 minutes. I never commenced any of the missions. The only apparent limit on the amount of time the lead character could stay in the Pig Pen is the player's ability to keep him from getting killed").

San Andreas is similar to the rest of the Series in style, game play, and tone.<sup>13</sup> By playing San Andreas, a player can experience the Game's version of West Coast "gangster" culture.<sup>14</sup> The Game features three virtual cities, "Los Santos," "San Fierro," and "Las Venturas."<sup>15</sup> These locations are based on Los Angeles, San Francisco, and Las Vegas.<sup>16</sup> The "Los [\*1017] Santos" section of San Andreas is the Game's version of Los Angeles.<sup>17</sup> Gangs control the Los Santos streets, random gunfire frequently erupts, and drug dealers and prostitutes are common.<sup>18</sup> Los Santos police officers are [\*\*8] corrupt.<sup>19</sup>

13 Defs.' Facts, P 11; Pl.'s Statement, P 11. Plaintiff does not dispute "that San Andreas is similar to the rest of the series in tone generally, or in style or game play," but disputes that San Andreas has a "parodic tone." As noted, this is a question of law, and does not raise a triable issue of fact. See *supra*, n. 7.

14 Defendants argue that the Game "parodies" West Coast gangster culture. (Defs.' Facts, P 12 (German Decl., Exh. 9 (PC version of the San Andreas Game), Exh. 10 (Brady Games' Signature Series Guide to the PC and Xbox versions of San Andreas ("Signature Series Guide"))); Hajaj Decl., P 10; Declaration of Nikolas Taylor in Support of Motion of Defendants Rockstar Games, Inc. and Take-Two Interactive Software, Inc. for Summary Judgment ("Taylor Decl."), P 4; Declaration of Tara McPherson in Support of Motion of Defendants Rockstar Games, Inc. and Take-Two Interactive Software, Inc. for Summary Judgment ("McPherson Decl."), Exh. 1 (Expert Report of Tara McPherson, Ph.D. ("McPherson Report") at 7).) Plaintiff counters that the Game makes no parodic comment on "gangster" culture, but allows the user to experience it vicariously. (Pl.'s Statement, P 12 (German Decl., Exh. 10 (Signature Series Guide)).) As noted, whether the

Game constitutes a "parody" is a legal question. Thus, the parties' disagreement does not create a genuine dispute of material *fact*. See *supra*, n. 7.

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15 Defs.' Facts, P 13; Pl.'s Statement, P 13. See Hajaj Decl., P 10; German Decl., Exh. 10 (Signature Series Guide).

16 Defs.' Facts, P 13; Pl.'s Statement, P 13. Plaintiff does not dispute that the three cities depicted in San Andreas are based on Los Angeles, San Francisco, and Las Vegas; it merely contends that San Andreas does not "parody" these cities. See *supra*, n. 7.

17 Again, the parties disagree as to whether the Game's depiction of Los Angeles is a "parody." (See Defs.' Facts, P 14 (Hajaj Decl., P 11; Taylor Decl., P 4; McPherson Decl., Exh. 1 (McPherson Report at 7)). See Pl.'s Statement, P 14 (German Decl., Exh. 10 (Signature Series Guide).) See *supra*, n. 7.

18 Defs.' Facts, P 15; Pl.'s Statement, P 15.

19 Defs.' Facts, P 16 (German Decl., Exh. 9 (PC version of the San Andreas Game), Exh. 10 (Signature Series Guide); Hajaj Decl., P 11.) Plaintiff disputes this statement, but does not explain the basis of the dispute. (Pl.'s Statement, P 16.) Nor does the evidence it cites substantiate the existence of any real dispute. (*Id.* (German Decl., Exh. 10 (Signature Series Guide), Exh. 11 (Plaintiff E.S.S. Entertainment 2000, Inc.'s Response to Defendant Take-Two Interactive's Second Set of Interrogatories).)

[\*\*10] San Andreas was released to the public in the PlayStation 2 format in October 2004, and in the Xbox and PC formats in June 2005. <sup>20</sup> San Andreas was released to the public prior to the date of plaintiff's March 2005 California service mark registration. <sup>21</sup> Millions of copies of San Andreas have been sold. <sup>22</sup>

20 Defs.' Facts, P 10; Pl.'s Statement, P 10.

21 Defs.' Facts, P 84; Pl.'s Statement, P 84.

22 Defs.' Facts, P 88; Pl.'s Statement, P 88.

## B. Los Santos

Los Santos mimics the look and feel of actual Los Angeles locations. <sup>23</sup> Like Los Angeles, Los Santos is a hodgepodge of distinct areas, each with its own unique characteristics. <sup>24</sup> Instead of "Hollywood," "Santa Monica," "Venice Beach," and "Compton," Los Santos

contains "Vinewood," "Santa Maria," "Verona Beach," and "Ganton." <sup>25</sup> The neighborhoods are populated with cartoon-style liquor stores, ammunition dealers, casinos, pawn shops, tattoo parlors, bars, and strip clubs, among other things. <sup>26</sup> The brand names, business names, and [\*\*11] other aspects of the locations have been changed to fit the overall "Los Santos" theme and the Series' irreverent tone. <sup>27</sup>

23 Defs.' Facts, P 17; Pl.'s Statement, P 17. Plaintiff's only dispute with defendants' statement is that Los Santos mimics Los Angeles for "parodic effect." See *supra*, n. 7.

24 Defs.' Facts, P 18; Pl.'s Statement, P 18.

25 Defs.' Facts, P 19; Pl.'s Statement, P 19.

26 Defs.' Facts, P 20; Pl.'s Statement, P 20. Plaintiff does not dispute that "Los Santos contains animated versions of these businesses"; it merely contends that Los Santos contains other elements as well.

27 Defs.' Facts, P 21; Pl.'s Statement, 21. Again, the only point of dispute is whether Los Santos is a "parody" of Los Angeles. See *supra*, n. 7.

The neighborhood of "East Los Santos" is the Game's version of East Los Angeles, or more specifically, the eastern edge of downtown Los Angeles.

28 Strip clubs, taco stands, and warehouse-type architecture are found in this area of downtown Los Angeles. [\*\*12] <sup>29</sup> East Los Santos mimics the look and feel of actual Los Angeles locations. <sup>30</sup> One of the businesses located in East Los Santos <sup>31</sup> is a virtual, cartoon-style [\*\*1018] strip club known as the "Pig Pen." <sup>32</sup>

28 Defs.' Facts, P 22; Pl.'s Statement, P 22. The parties' only dispute concerns whether East Los Santos is a "parody" of East Los Angeles. See *supra*, n. 7.

29 Defs.' Facts, P 23; Pl.'s Statement, P 23.

30 Defs.' Facts, P 24; Pl.'s Statement, P 24.

31 Defs.' Facts, P 34; Pl.'s Statement, P 34. Plaintiff disputes defendants' statement that the Pig Pen is part of East Los Santos' "parody" of the eastern area of downtown Los Angeles. See *supra*, n. 7.

32 Defs.' Facts, P 32. Plaintiff does not dispute that the Pig Pen is found in the Los Santos section of the Game; it merely disputes defendants' characterization that the club is "buried" in Los

Santos. (Pl.'s Statement, P 32.)

### C. Creation Of Los Santos And The Pig Pen

Cartoon-style, animated graphics give San Andreas its particular [\*\*13] look. <sup>33</sup> Thousands of virtual, cartoon-style locations are depicted in the game, <sup>34</sup> and it includes a disclaimer stating that the locations depicted are fictional. <sup>35</sup>

33 Defs.' Facts, P 25; Pl.'s Statement, P 25.

34 Defs.' Facts, P 29; Pl.'s Statement, P 29.

35 Defs.' Facts, P 31; Pl.'s Statement, P 31.

A team of artists in Scotland animated San Andreas. <sup>36</sup> Some of the artists who drew Los Santos visited Los Angeles to take reference photographs for use as inspiration in creating the Game's animated neighborhoods. <sup>37</sup> The artists took photographs of various Los Angeles businesses, streets, and other locations that appeared to fit the San Andreas theme. <sup>38</sup> The artists who drew the Pig Pen took photographs of the Play Pen. <sup>39</sup> The artists used the photographs of the Pig Pen and various other East Los Angeles locations to design aspects of the Pig Pen. <sup>40</sup>

36 Defs.' Facts, P 26; Pl.'s Statement, P 26.

37 Defs.' Facts, P 27 (Taylor Decl., P 6 ("In March 2003, I, along with many of the other Rockstar North artists responsible for 'Los Santos,' took a reference trip to Los Angeles to take photographs for use as inspiration for the Game's stylized, animated neighborhoods")). Plaintiff responds that it is "[u]ndisputed that Nickolas [sic] Taylor and perhaps other artists took photographs of actual Los Angeles as models for features in Los Santos." (Pl.'s Statement, P 27.) Plaintiff does not specify which, if any, portion of defendants' statement it disputes, nor does it proffer any evidence refuting any part of the statement. As a result, the court finds there is no material dispute regarding the factual statement.

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38 Defs.' Facts, P 28 (Taylor Decl., P 6 ("A location scout took us to specific places that fit within San Andreas' parodic theme, including various Los Angeles businesses, residences, and public streets. When we arrived at a private establishment we wished to view from the inside, we waited outside while the location scout

obtained permission for us to enter and to take photographs")). Plaintiff disputes defendants' factual statement, citing Taylor's deposition. (Pl.'s Statement, P 28.) The cited deposition testimony does not directly rebut defendants' statement, however. (See Helping Decl., Exh. D (Deposition of Nikolas Taylor ("Taylor Depo.") at 105:17-106:8 ("Q Okay. Did anything humorous about pigs in any way influence your artistic creation of the PIGPEN? A I can't remember. . . . Q As you sit here today can you think of anything funny about pigs that may have inspired or influenced your artistic rendition of the PIGPEN? A It just seemed, you know, to fit in"))).

39 Defs.' Facts, P 33; Pl.'s Statement, P 33.

40 Defs.' Facts, PP 35, 36; Pl.'s Statement, PP 35, 36.

When drawing [\*\*15] Los Santos, the artists changed the names, building designs, and overall look and feel of the locations and businesses they referenced to make them fit the virtual, cartoon-style world of San Andreas and the Series' irreverent tone. <sup>41</sup> [\*1019] According to Nikolas Taylor, the Lead Map Artist for the Los Santos section of San Andreas, he and other artists purposely made these alterations because they did not seek to "re-creat[e] a realistic depiction of Los Angeles; rather, [they] were creating 'Los Santos,' a fictional city that lampooned the seedy underbelly of Los Angeles and the people, businesses and places [that] comprise it." <sup>42</sup> Taylor agreed, however, that he did not choose the word "Pig" because he wanted to parody strip club patrons, or because he found anything humorous about pigs. <sup>43</sup>

41 Defs.' Facts, P 30 (Taylor Decl., PP 8-9). Plaintiff disputes this statement (Pl.'s Statement, P 30), but the evidence it cites does not rebut defendants' contention that the artists changed aspects of the locations and businesses to make them fit the virtual world of San Andreas and the irreverent tone of the Series. (Helping Decl., Exh. D (Taylor Depo. at 65:15-23 ("Q Now it has been alleged in legal documents in this case Sir that the purpose for changing the word play to pig is to indicate or paradise [that] patrons of these Gentlemen's Clubs are pigs, is that consistent with your artistic inspiration for making the changes? A No. Q So any representations to the extent of what I have just posed to you here would be incorrect? A That would be incorrect"),

105:17-106:8 (see *supra*, n. 38)).) Defendants' statement, in fact, is consistent with Taylor's earlier deposition testimony, in which he stated that he designed the Pig Pen to "ma[k]e it more follow the theme of the game, ma[k]e it more like part of the game, ma[k]e it more part of Los Santos as a virtual environment." (*Id.*, Exh. D (Taylor Depo. at 37:21-24).)

Defendants assert that the artists changed the look and feel of the businesses and locations to fit the Series' "critical" tone. (Defs.' Facts, P 30.) The evidence they cite does not support this contention, however. (Taylor Decl., P 8 (stating that changes were made "in order to be funny"), P 9 (Los Santos "significantly twists, distorts, and changes [the references] to be funny")); McPherson Decl., Exh. 1 (McPherson Report at 7 (presenting an expert's views that San Andreas's virtual radio stations feature "outrageous commentary and a scathing critique of talk radio"), 10 (discussing differences between the fictional 'The Pig Pen' and the strip club 'The Play Pen'))).

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42 Defs.' Facts, P 30 (Taylor Decl., P 8).

43 Pl.'s Statement, P 30 (Helfing Decl., Exh. D (Taylor Depo. at 65:15-23, 105:17-106:8)).

#### **D. Comparison Between The Pig Pen And The Play Pen**

The Pig Pen building is a totally different size, color, shape, and structure than the Play Pen building.<sup>44</sup> Furthermore, unlike the Play Pen, the Pig Pen does not have a stone facade, a valet stand, large plants and gold columns around the entrance, or a six foot black iron fence surrounding the parking lot.<sup>45</sup> Although the [\*1020] Pig Pen and the Play Pen both have pole signs, the signs have different color schemes. Moreover, unlike the Play Pen's pole sign, the Pig Pen's sign has no trio of nude silhouettes above the logo, and no separate "totally nude" sign below.<sup>46</sup> Pointing to these differences, defendants contend that the Pig Pen building was not modeled after the Play Pen building, but rather after another structure in the same neighborhood as the Play Pen.<sup>47</sup> While plaintiff does not dispute that the Pig Pen building differs from that of the Play Pen in certain respects, it contends that the [\*17] two clubs have similar awnings and logos.<sup>48</sup>

44 Defs.' Facts, P 39; Pl.'s Statement, P 39.

45 Defs.' Facts, P 40 (German Decl., Exh. 1 (Deposition of Edmond Adaimy ("Adaimy Depo") at 247:5-251:23 ("Q. Okay. Is there a stone facade on the front of the [Play Pen] building? A. Yes. . . . Q . . . Have the stones always been there on the front of the building as long as The Playpen has been open? A. I think they were there when we opened. Q. Are there plants or trees on either side of the front door to the Playpen building? A. Yes. . . . Q. When did you put those trees and those plants in? A. When we opened the place. Q. So since you opened the place, there's always been trees and plants on the side - A. Yes. We added a few more trees and stuff. . . . Q. Is there a fence around the property? A. Yes. Q. What type of fence is it? A. Iron fence. Q. Describe it. A. Iron fence that goes from the side door all the way around to the entrance of the covered parking. Q. Does it completely surround the parking lot? A. Yes. It enclosed the entire - when you pull the door shut, the place is - I mean, nobody can drive in or out. . . . Q. How high is the fence? A. Probably six feet or six and a half. Q. What color is the fence? A. Black. Q. It is noticeable? A. Yes. Q. Does everyone who comes in the club see the fence? A. Yes. Q. Is it unique to your club, the fact that there is a fence around the parking lot? A. Not that many parking lots have a fence around it, but there are some that do have fence around it. Q. Has it always been there since you opened the club? A. Yes. Q. So everyone who has ever seen The Playpen club has seen the black iron fence, correct? A. Yes, I think"), 252:10-21 ("Q. Do you offer valet parking at The Playpen Club? A. Yes. Q. Is there a valet stand in front of The Playpen club? A. Yes. Q. Has that valet stand always been there in the whole time you were open? A. Always. A. Is it always there? Every time someone comes in the club, you see a valet stand? A. Always there, always"), Exh. 2 (Deposition of Abner Pajounia ("Pajounia Depo.") at 217:10-219:7 ("Q. Tell me what's different [between the Pig Pen and the Play Pen]? A. Playpen is one story. This is several story. Playpen got no windows. Actually, any strip club don't have any windows. This one has windows. Playpen has an awning. This one has an awning. Q. You said the awning is different, right? A. They shaped it a little different. The

logo is the same. The font is the same. . . . Q. The Pigpen is not the same color as the Playpen, the building, correct? A. Correct. Q. Are there gold columns inside the doorway to the Playpen? A. Yes, there are. Q. Are there gold columns inside the doorway of the Pigpen? A. On this picture, no. Q. Are there in any picture that you've ever seen? A. No. Q. Let's take a look at - is there a valet stand in front of the Playpen when the club is open? A. Yes. Q. Is there a valet stand in front of the Pigpen? A. No. It's a pig house. There is no valet. How could the pig house have a valet?")))).

Plaintiff attempts to refute defendants' statement, citing photographs of the Pig Pen and the Play Pen. (See Pl.'s Statement, P 40.) The photographs support defendants' contention that unlike the Play Pen, the Pig Pen does not have a stone facade, a valet stand, large plants and gold columns around the entrance, or a six foot black iron fence surrounding the parking lot. (Compare Helping Decl., Exh. A at 6-8 (photographs of the Play Pen) with *id.*, Exh. B at 13-14 (photographs of the Pig Pen).)

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46 Defs.' Facts, P 41 (German Decl., Exh. 1 (Adaimy Depo. at 246:5-16 ("Q. Is there anything about the exterior of the club that you think is distinctive or important to identify your club? A. Well, we have these three ladies on the top here. Q. Of the sign. You are pointing on page 9 of Exhibit 200? A. Yes. They light up in neon, on and off. Q. So is that an important feature, those neon ladies on top of the sign? A. Well, they kind of attract the eyes")), Exh. 2 (Pajounia Depo. at 224:12-225:12 ("Q. What is different about [the pole signs for the Play Pen and the Pig Pen?] A. My sign is red. This is pink. What else is different? A. This one is, it doesn't have the ladies on the top, the silhouettes. Q. The Pigpen doesn't have the silhouettes or the lady on top of the sign? A. Exactly. My sign has the silhouette on the top, three ladies, and this one has no silhouettes. My sign has a frame that is blue. Your client's sign doesn't have any framing. My sign has the - they have the 'totally nude' there, too. Same font, yeah. Q. But on the pole, is there a separate neon sign on the Playpen sign that says 'totally nude'? A. Yes. Q. Is that on The Pigpen sign? A. No. They took that off. Q. And - A. They add the totally -

yeah, they have the 'totally nude' like mine, the same font. Q. Are those signs the same colors? A. No. One is pink, one is red. Your client's is pink. I said that earlier. Mine is red. I have the hot red")))).

Plaintiff purports to dispute this statement (See Pl.'s Statement, P 41), but the photographs actually support defendants' representations regarding the pole signs of the Pig Pen and the Play Pen. (Compare Helping Decl., Exh. A at 7 (photographs of the Play Pen's pole sign) with *id.*, Exh. B at 13-14 (photographs of the Pig Pen's pole sign).)

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47 Defs.' Facts, P 38 (German Decl., Exh. 2 (Pajounia Depo. at 217:10-219:7); Taylor Decl., P 14 ("I made the exterior of the Pig Pen look different from the exterior of the Playpen in several respects. . . . For example, I did not model the Pig Pen building after the Playpen building. Instead, I used another building from the Playpen's neighborhood as inspiration"))).

48 Pl.'s Statement, P 38 (compare Helping Decl., Exh. A at 6-8 (photographs of the Play Pen's awning and logo) with *id.*, Exh. B at 13-14 (photographs of the Pig Pen's awning and logo)).

The logo on the pole sign in a corner of the Play Pen parking lot is different from the logo that appears on the awning above the Play Pen door in certain respects. <sup>49</sup> [\*1021] This is because there is no physical master or precise template for the Play Pen logo. <sup>50</sup> How to draw the silhouette of the nude female dancer in the Play Pen logo is left to each artist who draws it, although the final drawing must be acceptable to the Play Pen's owners. <sup>51</sup> There are several different versions of the silhouette used in the Play Pen logo. <sup>52</sup> In fact, [\*20] some advertisements and signs for the Play Pen do not contain the silhouettes of the nude females. <sup>53</sup>

49 Defs.' Facts, P 65 (German Decl., Exh. 3 (Plaintiff E.S.S. Entertainment 2000, Inc.'s Second Supplemental Response to Defendant Rockstar Games, Inc.'s Third Set of Requests for Admission, RFA No. 65 ("Request for Admission No. 65 Admit that the silhouette depicted on the awning above the front door of the building located at 1109 S. Santa Fe Ave., Los Angeles, California, is different from the silhouette

depicted on the sign on the tower in the northeast corner of the parking lot located at 1109 S. Santa Fe Ave. Los Angeles CA. Response to Request for Admission Nol. 65 Admit''')). Plaintiff's do not dispute that differences exist in some details. (Pl.'s Statement, P 65.)

50 Defendants contend that "[n]o precise template exists for the Playpen logo." (Defs.' Facts, P 66 (German Decl., Exh. 1 (Adaimy Depo. at 191:5-193:17 ("Q. So what is depicted on page 12 of the Complaint? What is that a picture of? A. This is the awning of The Playpen. Q. That's at the front door of the club where the customers come in? A. Yes. Q. So that woman in that stem of that P is slightly different than the woman on the sign out in front of the club; is that correct? A. Yes. Again, because of the P here being much bigger. So they ratioed down-I guess they ratioed down as much as they can of the P. . . . Q. The hairstyle is a little different, correct? A. Yes, a little bit different. They put it in like a little something here. They could never draw the same silhouette. Q. Oh. So the silhouette is never exactly the same way twice; is that correct? A. Well, it depends on the person that draws it. Q. Right. So what is important about the logo is that there is some silhouette - A. Right. Q. - but it doesn't matter exactly how the silhouette looks; is that correct? A. It has to look acceptable. Q. Acceptable to who? A. To me or to my partner or to both of us. Q. But you don't care if it is exactly the same woman in exactly the same - A. We try to get it as close as possible. But then, you know, sometimes it doesn't work. Q. There is not like a master silhouette. A. No. We don't have it in a stamp that we take and stamp it in the P and say - Q. So each time someone makes a new sign or a new ad or a new thing, they draw the woman again? A. Uh-huh. Q. And it might be slightly different? A. Right''')). Plaintiff disputes this statement, but concedes that there is no stamp or other physical master for the logo. (Pl.'s Statement, P 66.)

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51 A fair reading of Adaimy's testimony is that while the details of the silhouettes are initially left to the artists, the final drawings must be acceptable to Adaimy or his partner. (Defs.' Facts, P 66 (Adaimy Depo. at 191:5-193:17); Pl.'s Statement, P 66 (same).)

52 Defs.' Facts, P 86 (German Decl., Exh. 1 (Adaimy Depo. at 187:4-14 ("Q. Is it fair to say that the silhouette of the woman is an important part of the logo? A. I would think so. Q. When you ever notice different versions of the woman in the silhouette in the logo, is it always the same woman, drawn the same way? A. Sometimes it doesn't come out this way. Sometimes the arm is more stretched. Sometimes the hair is different. Yes, I have noticed sometimes it is not exactly the same. Sometimes the legs are more bent''), 189:23-190:9 ("Well, the silhouette, of course, is in the logo. But then the way some people draw it, you know, they don't draw it similar, you know. It is a silhouette and the silhouette is . . . Q. So different people might draw the logo in different ways, correct? A. Yes. They do it maybe a little different with the hand, with the leg, with the arm. Q. There are lots of different things that might be slightly different''')). Plaintiff disputes this statement, citing photographs of the Play Pen building. (Pl.'s Statement (Helping Decl., Exh. A at 4-7 (photographs of the Play Pen logo on various parts of the building)).) The photographs support defendants' contention that there are several different versions of the silhouette used in the Play Pen logo. For instance, the silhouette on the awning has rounder curves than the silhouette located on the side of the building. (Compare Helping Decl., Exh. A at 6 with *id.*, Exh. A at 4.) The silhouette on the pole sign is in a slightly different position than the others; the pole sign also features three silhouettes on top of the logo. (See *id.*, Exh. A at 7.)

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53 Defendants contend that plaintiff's use of its Play Pen logo has been "highly inconsistent." (Defs.' Facts, P 85.) Plaintiff disputes this. (Pl.'s Statement, P 85.) Defendants' evidence does not support their characterization that use of the Play Pen logo has been "highly inconsistent"; the evidence merely shows that certain advertisements and signs for the Play Pen have omitted the nude silhouettes. (German Decl., Exh. 2 (Pajounia Depo. at 17:11-22 (stating that the exterior of the Play Pen has been remodeled, but the logo has remained the same), 19:6-19 (testifying that the awning above the door says, "Play Pen" but does not have the logo), 20:3-9 (same), 20:25-21:13 (stating that plaintiff uses

different versions of the Play Pen logo on some billboards and on one truck "[b]ecause these logos, they might be either the billboard is next to a church or to a school and the truck goes to the Staples Center where there are kids around, so we just want to cut down a little nudity of the logo and the pictures that we, you know, we advertise"), 22:2-23:17 ("I know there are two or three billboards that specify they're close to school and church that I ask him to take the silhouette and be a little bit more careful about the picture of the two ladies on the billboard")); see also Declaration of Dr. Carol Scott in Support of Motion of Defendants Rockstar Games, Inc. and Defendants Rockstar Games, Inc. and Take-Two Interactive Software, Inc. for Summary Judgment ("Scott Decl."), P 16 ("The Playpen logo is not used consistently").) Plaintiff's photographs also show that its use of the Play Pen logo, at least on the building that houses the club, has not been "highly inconsistent." (Pl.'s Statement, P 85 (Helfing Decl., Exh. A at 4-7 (photographs of the Play Pen logo on various parts of the building)).)

[\*\*23] [\*1022] The Play Pen logo is written in a publicly available font.<sup>54</sup> Defendants contend that some of the letters of the Pig Pen logo are in a different font than they are in the Play Pen logo.<sup>55</sup> Plaintiff disputes this, and contends that the two logos use the same font.<sup>56</sup>

54 Defs.' Facts, P 36. Plaintiff Pl.'s Statement, P 36.

55 Defs.' Facts, P 72 (Taylor Decl., P 14 ("I also changed the Playpen logo. For example, I made the Pig Pen silhouette slightly different and used a different font on portions of the Pig Pen logo")).

56 Pl.'s Statement, P 72 (Helfing Decl., Exh. A at 4 (photograph of Play Pen logo), Exh. B at 11 (photograph of Pig Pen logo)).

### E. Features Of Strip Clubs In General

Strip clubs other than the Play Pen have round awnings<sup>57</sup> because awnings provide shelter from the weather.<sup>58</sup> Many strip clubs also have parking lots.<sup>59</sup> Many businesses are located on the southwest corner of an intersection,<sup>60</sup> and placing a pole sign in the corner of a strip club parking lot closest to [\*\*24] the intersection is not unique.<sup>61</sup>

57 Defendants contend that "many" strip clubs

have round awnings. (Defs.' Facts, P 58.) Plaintiff counters that only "some" strip clubs have round awnings. The testimony cited by defendants supports plaintiff's position. (See German Decl., Exh. 1 (Adaimy Depo. at 263:24-264:6) ("Q. Does the Spearmint Rhino have an awning? A. Oh, sure. Spearmint Rhino has an awning. Q. Do any of the other strip clubs that are your competitors have awnings? A. Well, some have, some don't. Some have, some don't")).

58 Defs.' Facts, P 59; Pl.'s Statement, P 59.

59 Defs.' Facts, P 61; Pl.'s Statement, P 61.

60 Defs.' Facts, P 60; Pl.'s Statement, P 60.

61 Defs.' Facts, P 62; Pl.'s Statement, P 62.

Many strip clubs display silhouettes of nude female dancers on the exterior of the building or in their logo.<sup>62</sup> Displaying silhouettes of nude female dancers outside a strip club lets customers know what to expect inside the club.<sup>63</sup> Many strip clubs also use the phrase "totally [\*\*25] nude" outside the club or in their logo<sup>64</sup> to tell customers that their dancers are totally nude.<sup>65</sup>

62 Defs.' Facts, P 52. Plaintiff does not dispute that many strip clubs display silhouettes; it disputes, however, that any unrelated club uses a silhouette similar to that in the Play Pen logo. (Pl.'s Statement, P 52.)

63 Defs.' Facts, P 51; Pl.'s Statement, P 51.

64 Defs.' Facts, P 54; Pl.'s Statement, P 54.

65 Defs.' Facts, P 53; Pl.'s Statement, P 53.

[\*1023] Defendants' expert conducted an Internet search and found websites for at least six other strip clubs and sex-themed establishments in the United States that use the term "Play Pen" or "Playpen."<sup>66</sup> The Internet also contains information about "Playpen" suites in a high-end Las Vegas hotel; each suite contains an in-room "stripper's pole."<sup>67</sup> In addition, there is information on the Internet regarding a theme night at a Hollywood nightclub known as the "Playpen," which featured performances by adult film stars.<sup>68</sup>

66 Defs.' Facts, P 55 (Scott Decl., P 17, Exh. 3). Plaintiff argues that Exhibit 3 to Scott's declaration, which contains website printouts showing other uses of the "Play Pen" name, constitutes hearsay and cannot be considered in deciding this motion. (Pl.'s Statement, P 17; see also Plaintiff's Evidentiary Objections in Support of Opposition to Motion of Defendants Rockstar



Games, Inc. and Take-Two Interactive Software, Inc. for Summary Judgment ("Pl.'s Evid. Obj."), No. 3.) Because defendants do not offer the website printouts for the truth of their content, but merely to show that certain sex-themed establishments advertise their businesses using the terms "Play Pen" or "Playpen," the court overrules plaintiff's objection.

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67 Defs.' Facts, P 56 (German Decl., Exh. 7). Plaintiff does not dispute that one hotel offers "Playpen" suites. (Pl.'s Statement, P 56.)

68 Defs.' Facts, P 57; Pl.'s Statement, P 57.

## F. Advertising And Relevant Consumer Markets

### 1. The Play Pen

The Play Pen has roughly 30,000 "admissions" per year;<sup>69</sup> on any given day, up to 35 percent of Play Pen admissions come from repeat customers.<sup>70</sup> Plaintiff markets its services in local print advertising (particularly, Spanish-language newspapers) and some small out-of-state publications, on the radio, and on a few billboards in and around the Los Angeles area, most of which do not feature the version of the logo with the nude, female silhouette.<sup>71</sup>

69 Defs.' Facts, P 63; Pl.'s Statement, P 63.

70 Defs.' Facts, P 64; Pl.'s Statement, P 64.

71 Defs.' Facts, P 76; Pl.'s Statement, P 76.

Plaintiff uses the word "play" in its "Play Pen," "Players,"<sup>[\*\*27]</sup> and "Playclubs.net" businesses.<sup>72</sup> The creator of the Play Pen came up with the phrase "Play Pen," because it suggests a place where men can go to play.<sup>73</sup>

72 Defs.' Facts, P 73; Pl.'s Statement, P 73.

73 Defs.' Facts, P 75; Pl.'s Statement, P 75. See German Decl., Exh. 1 (Adaimy Depo. at 163:6-15 ("Q. Did you think it was a good name when you first heard it? A. Yes. Q. Why? A. Well, it's like children playing in a box. So we have guys that come in and the box is the club, and then the guy's come in and play in the box. Q. It kind of gave you the idea that it would be a place where guys would come to play? A. Uh-huh"), 164:15-20 ("Q. And so you came up with The Playpen name? A. Right. Q. And you thought that that was a good name because it was a place where guys came to

play; is that correct? A. Correct"))).

### 2. The Pig Pen And The San Andreas Game

Rockstar Games has advertised San Andreas via television commercials on national networks and print advertisements in national magazines.<sup>74</sup> [\*\*28] The Pig Pen does not appear in any of San Andreas's advertising or promotional materials.<sup>75</sup> Nor does it appear on the Game's exterior packaging.<sup>76</sup> The Pig Pen is not visible to consumers until after they purchase the Game, insert it into a computer or other player, and actually play the Game.<sup>77</sup>

74 Defs.' Facts, P 45; Pl.'s Statement, P 45.

75 Defs.' Facts, P 46; Pl.'s Statement, P 46.

76 Defs.' Facts, P 44; Pl.'s Statement, P 44.

77 Defs.' Facts, P 83; Pl.'s Statement, P 83.

[\*1024] The Pig Pen is just one of hundreds of locations in Los Santos section of San Andreas.<sup>78</sup> A player who wishes to visit the Pig Pen may do so; there is a weapon available on the roof of the building.<sup>79</sup> None of San Andreas's missions specifically directs the player to the Pig Pen, however.<sup>80</sup> It is possible to play San Andreas for many hours and even to win the game without ever seeing the Pig Pen.<sup>81</sup>

78 Defendants contend that there are over one thousand locations in Los Santos. (Defs.' Facts, P 42 (Hajaj Decl., P 12 ("The Pig Pen is just one of over 1,000 locations in the 'Los Santos section of San Andreas . . ."). Plaintiff contends that the number of locations in Los Santos that players can actually go in and do things is in the hundreds. (Pl.'s Statement, P 42 (Helfing Decl., Exh. 1 (Deposition of Bradford Cornell ("Cornell Depo.") at 55:1-4 ("Q. BY MR. HELFING: How many depositions are there in Grand Theft Auto: San Andreas? How many places can the main character, Carl Johnson, go to and do things? A. Hundreds"))). Whether there are "hundreds" of locations, or "over a thousand," is immaterial to the resolution of this motion.

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79 See German Decl., Exh. 10 (Signature Series Guide at 14).

80 Defs.' Facts, P 47 (German Decl., Exh. 10 (Signature Series Guide at 18-61); Taylor Decl., PP 11, 12; McPherson Decl., Exh. 1 (McPherson Report at 11)). Plaintiff disputes this statement,

but the evidence it cites does not reveal any dispute. (Pl.'s Statement, P 47 (Helfing Decl., Exh. I (Cornell Depo. at 55:1-56:4 (testifying that the main character, Carl Johnson, can obtain a weapon at the Pig Pen, but stating that he did not view the Pig Pen "being prominently featured in that regard"))).)

81 Defs.' Facts, P 49 (Taylor Decl., PP 11-13; Hajaj Decl., PP 12, 13; McPherson Decl., Exh. 1 (McPherson Report at 11)).

### 3. Relevant Consumer Markets

Strip club patrons exercise some degree of care in selecting which club to attend.<sup>82</sup> Video game players are knowledgeable consumers.<sup>83</sup>

82 Defs.' Facts, P 77. Plaintiff disputes this statement, but the evidence cited does not show the existence of a dispute. (Plaintiff's Statement, P 77 (German Decl., Exh. 1 (Adaimy Depo. at 266:3-15 ("Q. Do you think customers are choosy about which strip club they want to attend? A. Choosy? Q. Do they care which one they go to? A. Yes. Q. Do they pay attention to which one they're going to? A. Yes. Q. Do they do research into which one they want to go to? A. Well, they feel comfortable in a certain area or in a certain place, that's where they are going to go"))).)

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83 Defs.' Facts, P 78; Pl.'s Statement, P 78.

Strip clubs and video games are not related products.<sup>84</sup> The Play Pen is a [\*1025] public establishment, where food and refreshments are served and live nude dancers perform.<sup>85</sup> Video games such as San Andreas are generally played at home, sitting in front of a screen.<sup>86</sup> Although there may be an overlap in terms of customers,<sup>87</sup> the Play Pen and San Andreas do not directly compete for purchasers.<sup>88</sup> Plaintiff is not now and has never been in the video game business, and has no plans to enter that business.<sup>89</sup> Defendants have never been in the strip club business and have no plans to enter that business.<sup>90</sup>

84 Defendants contend not only that strip clubs and video games are unrelated products, but that they "are not complementary products, and are not sold to the same class of purchasers." (Defs.' Facts, P 69.) The evidence defendants proffer

does not support the latter assertion. (German Decl., Exh. 1 (Adaimy Depo. at 209:4-6 (agreeing that an adult bookstore is not "the same type of business as a strip club"), 210:23-211:8 (explaining how an adult video store is different from a strip club), 212:9-18 (stating that Playboy magazine is a "totally different business" from the Play Pen), 213:9-22 (explaining how Playboy magazine is different from a strip club)), Exh. 3 (Plaintiff E.S.S. Entertainment 2000, Inc.'s Second Supplemental Response to Defendant Rockstar Games, Inc.'s Third Set of Requests for Admission, RFA No. 70 (merely admitting "that a video game is different from a strip club")), Exh. 5 (Supplemental Responses of Plaintiff E.S.S. Entertainment 2000, Inc., dba The Playpen to Defendant Rockstar Games, Inc.'s First Set of Requests for Admissions, RFA No. 4 (admitting "that DEFENDANTS do not directly compete with YOU for customers")); Scott Decl., P 18 (stating that "[p]laintiff's strip club and San Andreas are not related in the minds of consumers"); McPherson Decl., Exh. 1 (McPherson Report at 10 (opining that "[v]ery different systems of regulation apply to the two products, indicating clear levels of difference between the two products. Rockstar's goods and The Play Pen's services are not related")))).

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85 Defs.' Facts, P 71; Pl.'s Statement, P 71.

86 Defs.' Facts, P 70; Pl.'s Statement, P 70.

87 Pl.'s Statement, P 69 (Helfing Decl., Exh. J at 229 (Deposition of Carol A. Scott, Exh. 10 (showing that of the 503 San Andreas players surveyed, 30.0% had been to an adult entertainment or gentlemen's club in the past year, and 33.6% planned to go to an adult entertainment or gentlemen's club in the next year))).

88 Defs.' Facts, P 69 (German Decl., Exh. 5 (Supplemental Responses of Plaintiff E.S.S. Entertainment 2000, Inc. dba The Playpen to Defendant Rockstar Games, Inc.'s First Set of Requests for Admissions, RFA No. 4)).

89 Defs.' Facts, P 79; Pl.'s Statement, P 79.

90 Defs.' Facts, P 80; Pl.'s Statement, P 80.

### 4. Dr. Carol Scott's Survey

Defendants' expert, Dr. Carol Scott, conducted a survey of 503 San Andreas players. The players were

shown a screen shot of the Pig Pen and asked what, if anything, the image called to mind. Of the 503 players surveyed, sixteen mentioned "the Play Pen,"<sup>91</sup> while twenty-seven said the Pig Pen was a generic strip club.<sup>92</sup> [\*\*32] Five thought that the Pig Pen was endorsed by, sponsored by, or affiliated with the Play Pen.<sup>93</sup> Dr. Scott asked survey respondents whether they had been in a strip club or planned to go to a strip club. Of the consumers who answered yes, 4.4 percent thought that the Pig Pen was endorsed by, sponsored by, or affiliated with the Play Pen.<sup>94</sup>

91 Defs.' Facts, P 68. Plaintiff does not dispute that 16 of the 503 persons surveyed mentioned the Play Pen; rather, it disputes "the argumentative characterization of the amount as 'only 16.'" (Pl.'s Statement, P 68.)

92 Defs.' Facts, P 87; Pl.'s Statement, P 87.

93 Defs.' Facts, P 81. Plaintiff does not dispute that five of the survey participants stated they thought the Play Pen club sponsored, endorsed, or was affiliated with San Andreas; it merely disputes defendants' "argumentative characterization of the amount as 'only 5.'" (Pl.'s Statement, P 81.)

Defendants contend that "[p]laintiff does not know the name of a single consumer who claims to have been actually confused as to the sponsorship or endorsement of San Andreas." (Defs.' Facts, P 75.) Plaintiff does not dispute this, but contends that it has "requested the supporting documentation of defendants' survey which contains the name of at least five persons who were confused," and that "[d]efendants have not yet complied." (Pl.'s Statement, P 75.) It is undisputed that five respondents believed the Play Pen had sponsored or was affiliated with San Andreas. (Defs.' Facts, P 81; Pl.'s Statement, P 81.) Whether or not plaintiff knows the names of these individuals is immaterial to the legal issues presented in the motion. Thus, the court does not take this dispute into account in deciding the motion.

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94 Defs.' Facts, P 82. Plaintiff does not dispute that 4.4 percent of respondents who stated that they had been to a strip club or planned to go to one thought that the Play Pen sponsored, endorsed, or was affiliated with San Andreas;

plaintiff merely disputes defendants' "argumentative characterization of the amount as 'only 4.4%.'" (Pl.'s Statement, P 82.)

## II. DISCUSSION

### A. Legal Standard Governing Motions For Summary Judgment

A motion for summary judgment must be granted when "the pleadings, depositions, [\*1026] answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law." FED.R.CIV.PROC. 56(c). A party seeking summary judgment bears the initial burden of informing the court of the basis for its motion and of identifying those portions of the pleadings and discovery responses that demonstrate the absence of a genuine issue of material fact. See *Celotex Corp. v. Catrett*, 477 U.S. 317, 323, 106 S. Ct. 2548, 91 L. Ed. 2d 265 (1986). Where the moving [\*\*34] party will have the burden of proof on an issue at trial, the movant must affirmatively demonstrate that no reasonable trier of fact could find other than for the moving party. On an issue as to which the nonmoving party will have the burden of proof, however, the movant can prevail merely by pointing out that there is an absence of evidence to support the nonmoving party's case. See *id.* If the moving party meets its initial burden, the nonmoving party must set forth, by affidavit or as otherwise provided in Rule 56, "specific facts showing that there is a genuine issue for trial." *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 250, 106 S. Ct. 2505, 91 L. Ed. 2d 202 (1986); FED.R.CIV.PROC. 56(e).

In viewing evidence at the summary judgment stage, the court does not make credibility determinations or weigh conflicting evidence. Rather, it draws all inferences in the light most favorable to the nonmoving party. See *T. W. Electric Service, Inc. v. Pacific Electric Contractors Ass'n*, 809 F.2d 626, 630-31 (9th Cir. 1987). The evidence presented by the parties must be admissible. FED.R.CIV.PROC. 56(e). Conclusory, speculative testimony in affidavits and moving papers is insufficient [\*\*35] to raise genuine issues of fact and defeat summary judgment. See *Falls Riverway Realty, Inc. v. Niagara Falls*, 754 F.2d 49, 56 (2d Cir. 1985); *Thornhill Pub. Co., Inc. v. GTE Corp.*, 594 F.2d 730, 738 (9th Cir. 1979).

## B. Plaintiff's First Cause Of Action For Trade Dress Infringement And Unfair Competition

Plaintiff's first cause of action asserts a claim for trade dress infringement and unfair competition<sup>95</sup> under § 43(a) of the Lanham Act. Section 43(a) prohibits use of a "word, term, symbol, or device," or a "false designation of origin, false or misleading description of fact, or false or misleading representation of fact, which is likely to cause confusion, or to cause mistake, or to deceive as to the affiliation, connection, or association of such person with another person, or as to the origin, sponsorship, or approval of his or her goods, services, or commercial activities by another person." 15 U.S.C. § 1125(a); see *Waits v. Frito-Lay, Inc.*, 978 F.2d 1093, 1106 (9th Cir. 1992) ("Section 43(a) of the [\*1027] Lanham Act . . . prohibits the use of false designations of origin, false descriptions, and false [\*\*36] representations in the advertising and sale of goods and services").

95 Although the complaint is somewhat unclear, plaintiff's claim for unfair competition appears to be premised both on infringement of its trade dress and infringement of its unregistered trademark, i.e., its allegedly distinctive logo. Because the Lanham Act does not distinguish between trade dress and trademark, the court analyzes the two claims together. See *Walking Mountain*, 353 F.3d at 809 n. 17 ("Our trademark infringement caselaw is generally applicable to our resolution of Mattel's claim that Forsythe infringed its Barbie trade dress because the Supreme Court has clearly stated that trade dress and trademark infringement are very close cousins, both seeking to protect a designation of origin," citing *Two Pesos, Inc. v. Taco Cabana, Inc.*, 505 U.S. 763, 773, 112 S. Ct. 2753, 120 L. Ed. 2d 615 (1992) (stating that "§ 43(a) [of the Lanham Act, codified at 11 U.S.C. § 1125,] provides no basis for distinguishing between trademark and trade dress. . . . There is no persuasive reason to apply different analysis to the two . . ." (internal citations omitted))).

[\*\*37] "For a number of years after [Section 43(a)] was enacted, courts construed it narrowly to include only two kinds of wrongs: false advertising and the common-law tort of 'passing off one's goods as those of another." *Kendall-Jackson Winery, Ltd. v. E. & J. Gallo Winery*, 150 F.3d 1042, 1046 (9th Cir. 1998). Over time,

however, "the section has been widely interpreted to create, in essence, a federal law of unfair competition." *Two Pesos*, 505 U.S. at 780 (Stevens, J. concurring); see *Kendall-Jackson*, 150 F.3d at 1046.

There are two bases for liability under section 43(a): "(1) false representations concerning the origin, association, or endorsement of goods or services through the wrongful use of another's distinctive mark, name, trade dress, or other device ('false association'), and (2) false representations in advertising concerning the qualities of goods or services ('false advertising')." *Waits*, 978 F.2d at 1108. "A trademark is a word, phrase or symbol that is used to identify a manufacturer or sponsor of a good or the provider of a service." *Mattel, Inc. v. MCA Records, Inc.*, 296 F.3d 894, 900 (9th Cir. 2002) [\*\*38] (citing *New Kids on the Block v. News Am. Publishing, Inc.*, 971 F.2d 302, 305 (9th Cir. 1992)), cert. denied, 537 U.S. 1171, 123 S. Ct. 993, 154 L. Ed. 2d 912 (2003). In contrast, "trade dress involves the total image of a product and 'may include features such as size, shape, color, color combinations, texture, or graphics.'" *Vision Sports, Inc. v. Melville Corp.*, 888 F.2d 609, 613 (9th Cir. 1989) (quoting *Rachel v. Banana Republic, Inc.*, 831 F.2d 1503, 1506 (9th Cir. 1987)). Infringement of an unregistered trademark constitutes unfair competition under the Lanham Act (see *Kendall-Jackson*, 150 F.3d at 1046 & 1047 n. 7 (9th Cir. 1998); *Chrysler Corp. v. Vanzant*, 44 F.Supp.2d 1062, 1068 (C.D. Cal. 1999)), as does trade dress infringement (see *Int'l. Jensen, Inc. v. Metrosound U.S.A., Inc.*, 4 F.3d 819, 822 (9th Cir. 1993)).

## 1. Whether Defendants' Use Of Plaintiff's Trade Dress And Trademark Is A Nominative Fair Use

Defendants argue that they are entitled to summary judgment because their use of plaintiff's trade dress and trademark qualifies as a nominative fair use.<sup>96</sup> Plaintiff contends the nominative [\*\*39] fair use defense does not apply because San Andreas does not use the Play Pen mark or trade dress as a descriptive substitute.<sup>97</sup>

96 Notice of Motion and Motion of Defendants Rockstar Games, Inc. and Take-Two Interactive Software, Inc. for Summary Judgment ("Defs.' Mot.") at 7-9.

97 Plaintiff's Opposition to Motion of Defendants Rockstar Games, Inc. and Take-Two Interactive Software, Inc. for Summary Judgment ("Pl.'s Opp.") at 9-11.

### a. Fair Use Defenses

There are two fair use defenses available in trade dress or trademark infringement cases—classic and nominative. See *Walking Mountain*, 353 F.3d at 809 (stating that both types of fair use defense are applicable in both trademark and trade dress cases). A defendant's use is classic fair use "where [he] has used the plaintiff's mark *only* to describe his own product, *and not at all to describe the plaintiff's product*." *Id.* (quoting *Cairns v. Franklin Mint*, 292 F.3d 1139, 1151 (9th Cir. 2002) (emphasis original)). [\*\*40] Stated differently, the classic fair use defense "applies only to marks that possess both a primary meaning and a secondary meaning - and only when the mark is used in its primary descriptive sense rather than its [\*1028] secondary trademark sense." *Brother Records, Inc. v. Jardine*, 318 F.3d 900, 905 (9th Cir. 2003) (footnote omitted), cert. denied sub nom. *Jardine v. Brother Records, Inc.*, 540 U.S. 824, 124 S. Ct. 155, 157 L. Ed. 2d 45 (2003). See also *Cairns*, 292 F.3d at 1150 (under the classic fair use defense, "[a] junior user [of a trademark] is always entitled to use a descriptive term in good faith in its primary, descriptive sense other than as a trademark," quoting 2 Thomas J. McCarthy, MCCARTHY ON TRADEMARK AND UNFAIR COMPETITION, § 11:45 (4th ed. 2001)); *Entrepreneur Media, Inc. v. Smith*, 279 F.3d 1135, 1142 n. 3 (9th Cir. 2002) ("Although descriptive terms generally do not enjoy trademark protection, a descriptive term can be protected provided that it has acquired 'secondary meaning' in the minds of consumers, i.e., it has become distinctive of the trademark applicant's goods in commerce," quoting *Park 'N Fly v. Dollar Park & Fly, Inc.*, 469 U.S. 189, 194, 105 S. Ct. 658, 83 L. Ed. 2d 582 (1985)). [\*\*41]

Thus, for instance, in *In re Dual-Deck Video Cassette Recorder Antitrust Litigation*, 11 F.3d 1460 (9th Cir. 1993), defendant used the descriptive word, "VCR-2" to designate the jack to which a second VCR could be attached. The Ninth Circuit held that this did not infringe plaintiff's trademark for a two-deck videocassette recorder, "VCR-2." See *id.* at 1467 ("A JVC receiver, labeled JVC on the front, would not be mistaken for a Go-Video product because the videocassette jacks on the back were labelled 'VCR 1 and VCR 2,' and reference was made to 'VCR 2' in the instruction book and on the remote. No possibility existed that a person would buy the plainly labelled JVC receiver thinking that it was made by Go-Video, because a set of jacks on the back

was labelled 'VCR 2.' . . . This was fair use as a matter of law. The uses were descriptive, and there is no evidence from which an inference of bad faith could be drawn" (citations omitted)). See also *Entrepreneur Media*, 279 F.3d at 1143-44 (holding that the owner of *Entrepreneur* magazine had "the exclusive right to use its *trademark* in printed publications pertaining to business [\*\*42] opportunities," but did not "have the exclusive right to use the word 'entrepreneur' in any mark identifying a printed publication addressing subjects related to entrepreneurship," and concluding that the name of defendant's public relations firm, "EntrepreneurPR," constituted a classic fair use (emphasis original)); *Brookfield Communications, Inc. v. West Coast Entertainment Corp.*, 174 F.3d 1036, 1066 (9th Cir. 1999) (holding that defendant could legitimately use the term "Movie Buff" to describe a movie devotee, but was barred from using "MovieBuff," since, without the space, the term was not an English language word and "[was] used to refer to Brookfield's products and services, rather than to mean 'motion picture enthusiast'"); *Car-Freshner Corp. v. S.C. Johnson & Son, Inc.*, 70 F.3d 267, 270 (2d Cir. 1995) (holding that defendant's use of the pine tree shape for a Christmas season air freshener qualified as a classic fair use, and did not infringe plaintiff's rights in its pine tree air freshener design or dress).

To prevail on a classic fair use defense, a defendant must show: (1) that it has not utilized the term in dispute as a trademark [\*\*43] or service mark; (2) that it has used the term fairly and in good faith; and (3) that it has used the term only to describe its own goods or services. See *Cairns*, 292 F.3d at 1151; see also 15 U.S.C. § 1115(b)(4) (codifying the classic fair use defense). In the Ninth Circuit, "the classic fair use defense is not available if there is a likelihood of customer confusion as to the origin of the product." *Cairns*, 292 F.3d at 1151. Thus, the classic fair use defense complements the eight [\*1029] factor likelihood of confusion test set forth in *AMF, Inc. v. Sleekcraft Boats*, 599 F.2d 341 (9th Cir. 1979). See *id.* ("The classic fair use analysis, therefore, only *complements* the likelihood of customer confusion analysis set forth in *Sleekcraft*" (emphasis original)).<sup>98</sup>

98 In *Sleekcraft*, the Ninth Circuit identified eight factors to be considered in evaluating whether a defendant's use of a mark gives rise to a likelihood of consumer confusion: "(1) strength of the mark; (2) proximity or relatedness of the goods; (3) similarity of sight, sound and meaning;

(4) evidence of actual confusion; (5) marketing channels; (6) type of goods and purchaser care; (7) intent; and (8) likelihood of expansion." See *Dreamwerks Production Group, Inc. v. SKG Studio*, 142 F.3d 1127, 1129 (9th Cir. 1998) (citing *Sleekcraft*, 500 F.2d at 348-49).

[\*\*44] The nominative fair use defense, by contrast, applies where the defendant has "used the plaintiff's mark to describe the plaintiff's product, *even if the defendant's ultimate goal is to describe his own product.*" *Walking Mountain*, 353 F.3d at 809 (quoting *Cairns*, 292 F.3d at 1151 (emphasis original)). In other words, "[t]he goal of a nominative use is generally for the 'purposes of comparison, criticism [or] point of reference.'" *Id.* (quoting *New Kids on the Block*, 971 F.2d at 306)). See also *New Kids on the Block*, 971 F.2d at 308 (stating that the nominative fair use defense applies to a "class of cases where the use of the trademark does not attempt to capitalize on consumer confusion or to appropriate the cachet of one product for a different one").

To prove nominative fair use, a defendant must satisfy three requirements: (1) "the plaintiff's product or service in question must be one not readily identifiable without use of the trademark"; (2) "only so much of the mark or marks may be used as is reasonably necessary to identify the plaintiff's product or service"; and (3) "the user must do nothing [\*\*45] that would, in conjunction with the mark, suggest sponsorship or endorsement by the trademark holder." *Walking Mountain*, 353 F.3d at 809 (citing *Cairns*, 292 F.3d at 1151 (internal citation omitted)). See also *New Kids on the Block*, 971 F.2d at 308 ("If the defendant's use of the plaintiff's trademark refers to something other than the plaintiff's product, the traditional fair use inquiry will continue to govern. But, where the defendant uses a trademark to describe plaintiff's product, rather than its own, we hold that a commercial user is entitled to a nominative fair use defense provided he meets the following three requirements").

The nominative fair use test replaces the likelihood of customer confusion analysis set forth in *Sleekcraft*. See *Walking Mountain*, 353 F.3d at 810 n. 19 ("The nominative fair use test replaces the traditional [*Sleekcraft*] analysis"); *Cairns*, 292 F.3d at 1151 (same). See also *Playboy Enterprises, Inc. v. Welles*, 279 F.3d 796, 801 (9th Cir. 2002) (stating that the three-prong test

"better evaluates the likelihood of confusion in nominative use [\*\*46] cases"). As the Ninth Circuit explained in *Brother Records*, however, "the third requirement of the nominative fair use defense - the lack of anything that suggests sponsorship or endorsement - is merely the other side of the likelihood-of-confusion coin." *Brother Records*, 318 F.3d at 909 n. 5. "Therefore, whereas [the] plaintiff carries the burden of persuasion in a trademark infringement claim to show likelihood of confusion, the nominative fair use defense shifts to the defendant the burden of proving no likelihood of confusion." *Id.* (internal citation omitted).

#### **b. Applicability Of The Nominative Fair Use Analysis In This Case**

Defendants do not assert a classic fair use defense. They argue rather that, to [\*1030] the extent they used plaintiff's trade dress or trademark, it was a nominative fair use. Plaintiff disputes that the defense applies to this case.

*New Kids on the Block*, cited by the parties, offers helpful guidance as to when the nominative fair use defense applies. There, the Ninth Circuit explained the defense as follows:

"[I]t is often virtually impossible to refer to a particular product for purposes of comparison, criticism, point [\*\*47] of reference, or any other such purpose without using the mark. For example, reference to a large automobile manufacturer based in Michigan would not differentiate among the Big Three; reference to a large Japanese manufacturer of home electronics would narrow the field to a dozen or more companies. Much useful social and commercial discourse would be all but impossible if speakers were under threat of an infringement lawsuit every time they made reference to a person, company or product by using its trademark. . . .

. . . [W]e may generalize a class of cases where the use of the trademark does not attempt to capitalize on consumer confusion or to appropriate the cachet of one product for a different one. Such *nominative use* of a mark - where the only

word reasonably available to describe a particular thing is pressed into service - lies outside the strictures of trademark law: Because it does not implicate the source-identification function that is the purpose of trademark, it does not constitute unfair competition; such use is fair because it does not imply sponsorship or endorsement by the trademark holder." *New Kids on the Block*, 971 F.2d at 306-08 (emphasis [\*\*48] in original).

In *New Kids on the Block*, two national newspapers used photographs of members of the musical group New Kids on the Block, along with the group's name, to advertise reader polls regarding the group's popularity. *Id.* at 304. The Ninth Circuit held that defendants' use of the mark was nominative in nature, since the newspapers had used the New Kids trademark to refer to the New Kids themselves, albeit to advertise the newspapers' survey. *Id.* at 308. The court employed a three-pronged test to determine whether defendants were entitled to assert a nominative fair use defense. First, it determined that it was impossible to conduct a survey about the New Kids, or even to talk about the group, without using its trademarked name. See *id.* ("It is no more reasonably possible, however, to refer to the New Kids as an entity than it is to refer to the Chicago Bulls, Volkswagens, or the Boston Marathon without using the trademark. Indeed, how could someone not conversant with the proper names of the individual New Kids talk about the group at all? While plaintiff's trademark certainly deserves protection against copycats and those who falsely [\*\*49] claim that the New Kids have endorsed or sponsored them, such protection does not extend to rendering newspaper articles, conversations, polls, and comparative advertising impossible").

Second, the court concluded that the newspapers had referenced the New Kids "only to the extent necessary to identify them as the subject of the polls; they [did] not use the New Kids' distinctive logo or anything else that [was not] needed to make the announcements intelligible to readers." *Id.* Finally, the court held that nothing in the survey suggested sponsorship or endorsement by the New Kids. *Id.* Indeed, at least one of the newspaper announcements "implied quite the contrary by asking whether the New Kids might be 'a turn off.'" *Id.* at 308-09. Since all three requirements were met, the court

affirmed summary judgment in favor of the newspapers, notwithstanding the fact [\*1031] that defendants had profited from the survey's use of the New Kids name. See *id.* at 309 ("Where, as here, the use does not imply sponsorship or endorsement, the fact that it is carried on for profit and in competition with the trademark holder's business is beside the point" (citation [\*\*50] omitted)).

*New Kids on the Block* involved a trademark infringement claim. In *Walking Mountain* the Ninth Circuit extended the nominative fair use defense to trade dress infringement claims. See *Walking Mountain*, 353 F.3d at 809-10 ("a defendant's use is *nominative* where he or she used the plaintiff's dress to describe or identify the plaintiff's product, even if the defendant's ultimate goal is to describe or identify his or her own product"). In *Walking Mountain*, the defendant, Thomas Forsythe, produced photographs of Barbie in various absurd and sexualized poses, often juxtaposed with vintage kitchen appliances; Forsythe contended that he was attempting in this manner to critique the objectification of women associated with Barbie. See *id.* at 796. The Ninth Circuit held Forsythe's use was nominative, in that his "use of the trade dress or mark [was] grounded in [his] desire to refer to the plaintiff's product as a point of reference for defendant's own work." *Id.* at 810. Stated differently, the Ninth Circuit concluded that "Forsythe used Mattel's Barbie figure and head in his works to conjure up associations of [\*\*51] Mattel, while at the same time to identify his own work, which is a criticism and parody of Barbie." *Id.* (citation omitted).

The court also held that Forsythe's use of Barbie's trade dress satisfied each element of the nominative fair use test. First, his use of the Barbie figure and head was "reasonably necessary in order to conjure up the Barbie product in a photographic medium." *Id.* at 810; see *id.* at 810-11 (explaining that "[i]t would have been extremely difficult for Forsythe to create a photographic parody of Barbie without actually using the doll"). Second, given the photographic medium and Forsythe's goal of depicting Barbie's social implications, his use of the Barbie torso and head was both reasonable and necessary. *Id.* at 811 (noting that "[i]t would be very difficult for him to represent and describe his photographic parodies of Barbie without using the Barbie likeness"). Finally, the court concluded that the third element was satisfied because, although Forsythe advised some galleries that one of his photographs hung in the office of Mattel's President of Production, "[t]he rest of the materials in

the[] [\*\*52] promotional packets sent to galleries reduce[d] the likelihood of any consumer confusion as to Mattel's endorsement of Forsythe's work." *Id.* Moreover, the court noted, "[a]ny reasonable consumer would realize the critical nature of [the] work and its lack of affiliation with Mattel." *Id.*; see *id.* (stating that "[c]ritical works are much less likely to have a perceived affiliation with the original work" (citation omitted)). The Ninth Circuit therefore affirmed the district court's grant of summary judgment in Forsythe's favor on Mattel's trade dress infringement claim.

As *New Kids on the Block* and *Walking Mountain* show, the nominative fair use analysis is applied where a defendant's work clearly identifies and intentionally refers to plaintiff's product or service. See *Brother Records, Inc.*, 318 F.3d at 904 ("Following *New Kids*, we have applied the nominative fair use defense in a number of cases. In most of these cases, the nominative fair use defense, as opposed to the classic fair use defense, clearly applied because the defendant used the plaintiff's mark undeniably to refer to the plaintiff's product, even though the defendant's [\*\*53] ultimate goal was to describe his own product"). See, e.g., *Cairns*, 292 F.3d 1139, 1152-53, 1155 [\*1032] (holding that defendant's use of plaintiff's marks - Princess Diana's name and likeness - to market defendant's Diana-related memorabilia constituted "a permissible nominative fair use"); *Playboy Enterprises*, 279 F.3d at 802-05 (holding that a former *Playboy* model's use of the words "playboy" and "playmate" in headlines and banner advertisements on her website was a nominative fair use); *Downing v. Abercrombie & Fitch*, 265 F.3d 994, 1000, 1009 (9th Cir. 2001) (applying a nominative fair use analysis where the defendant clothing company used the trademarked names and photographs of the plaintiff surfing champions to market shirts that were copies of those worn by plaintiff's in the photographs); *Abdul-Jabbar v. Gen. Motors Corp.*, 85 F.3d 407, 409 (9th Cir. 1996) (conducting a nominative fair use analysis where plaintiff, a basketball player who had won an award three years in a row, sued an automobile manufacturer for using his name in a commercial advertising a car that had also won an award three years in a row); [\*\*54] *WCVB v. Boston Athletic Ass'n*, 926 F.2d 42, 44 (1st Cir. 1991) (holding that a television station could mention the "Boston Marathon" in its broadcasts); *J.K. Harris & Co., LLC v. Kassel*, 253 F.Supp.2d 1120, 1125-26 (N.D. Cal. 2003) (holding that defendants' use of plaintiff's trade name to criticize the latter's tax services in Internet advertising was a

nominative fair use). See also *SSP Agricultural Equipment, Inc. v. Orchard-Rite Ltd.*, 592 F.2d 1096, 1102-03 (9th Cir. 1979) (holding that the defendant company did not infringe plaintiff's rights in its "TROPIC BREEZE" trademark by using the name in competitive advertising); *Volkswagenwerk Aktiengesellschaft v. Church*, 411 F.2d 350, 351 (9th Cir. 1969) (holding that the defendant car repair shop could use plaintiff's trademark, "Volkswagen," in a sign stating "Modern Volkswagen Porsche Service"); *Smith v. Chanel, Inc.*, 402 F.2d 562, 563 (9th Cir. 1969) (holding that a perfume manufacturer could advertise its "2d Chance" perfume by stating that the product was indistinguishable from "Chanel No. 5" as long as the advertisement "[did] not contain misrepresentations [\*\*55] or create a reasonable likelihood that purchasers will be confused as to the source, identity, or sponsorship of the advertiser's product").

As the Ninth Circuit explained in *Playboy Enterprises*, courts must employ *New Kids*' three-part inquiry in nominative use cases because "[w]hen a defendant uses a trademark nominally, the trademark will be identical to the plaintiff's mark, at least in terms of the words in question." *Playboy Enterprises*, 279 F.3d at 801. Consequently, "application of the *Sleekcraft* test, which focuses on the similarity of the mark used by the plaintiff and the defendant, would lead to the incorrect conclusion that virtually all nominative uses are confusing." *Id.*

The evidence presented by defendants establishes that the artist(s) responsible for creating the Pig Pen did not design the virtual strip club to identify or refer specifically to the Play Pen. In his declaration, Nikolas Taylor, the Lead Map Artist for the Los Santos section of San Andreas, states that while he and other artists modeled parts of Los Santos on real places, they "purposely changed the names, building designs, and overall look and feel of the real-world [\*\*56] places" to make the places fit the Game's cartoon-style world. <sup>99</sup> Although Taylor drew inspiration for the Pig Pen from reference photographs he had taken of Los Angeles and of the Play Pen, he asserts that he "purposely twisted, altered, and distorted the look of the Playpen logo until it became a suitable logo for the Pig Pen, a cartoon-style strip club that [\*1033] fit with the rest of 'East Los Santos', and was consistent with San Andreas' style [and] irreverent tone." <sup>100</sup> Taylor states, for instance, that he designed the exterior of the Pig Pen so that it would look different from the exterior of the Play Pen in several



respects; indeed, he states he modeled the Pig Pen building on another location in the neighborhood.<sup>101</sup> Taylor also changed the color of building "to fit the Pig Pen within the overall 'Los Santos' look and feel."<sup>102</sup>

99 Taylor Decl., P 8. See *id.*, P 5.

100 *Id.*, P 13.

101 *Id.*, P 14.

102 *Id.*

"Most obviously, [Taylor] used a different name" for the strip [\*\*57] club; Taylor contends he chose the name "Pig Pen" not to make fun of the Play Pen, but so "it would be obvious to players of the Game that this was not a real East Los Angeles strip club, but rather, a parody of an East Los Angeles strip club."<sup>103</sup> Although he retained the words "totally nude" and the silhouette of the nude female dancer depicted inside the letter "P," Taylor asserts he did this because he believed that "having the nude female silhouette and the words 'totally nude' would help to communicate the message that the Pig Pen was a strip club where totally nude women danced."<sup>104</sup> He stated: "I ha[ve] seen lots of similar-looking silhouettes on several other strip clubs, and thought that these generic elements were common elements of these types of places."<sup>105</sup> Similarly, Taylor testified that his goal in designing the Pig Pen was to "ma[k]e it more follow the theme of the game, ma[k]e it more like part of the game, ma[k]e it more part of Los Santos as a virtual environment"<sup>106</sup> - not to comment on the Play Pen *per se*.

103 *Id.*, P 15.

104 *Id.*, P 16.

105 *Id.*

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106 Helping Decl., Exh. D (Taylor Depo. at 37:21-24).

Although the evidence indicates that Taylor was primarily, if not solely, responsible for creating the Pig Pen,<sup>107</sup> the declaration and deposition testimony of Rowan Hajaj, Head of Strategic and Corporate Development at Rockstar Games,<sup>108</sup> also support the conclusion that San Andreas does not utilize the Play Pen trade dress or mark to identify, compare, or refer to plaintiff's product or service. Hajaj asserts that San Andreas "parodies the seedy underbelly of Los Angeles,"<sup>109</sup> and that the Pig Pen is a "virtual, cartoon-style strip club" that "is an extremely minor aspect of San Andreas."<sup>110</sup> He highlights [\*1034] the fact that it is possible to

play and even win the Game without passing by or viewing the Pig Pen,<sup>111</sup> and emphasizes that San Andreas carries an express disclaimer on its exterior packaging and on its in-game title screen, which states: "The content of this videogame is purely fictional and is not intended to represent any actual person, business, or organization."<sup>112</sup>

107 See Taylor Decl., P 13. See also Helping Decl., Exh. D (Taylor Depo. at 33:5-13 ("Q Did you have anything to do with making the word the PLAYPEN, the PIGPEN, did you convert the PLAYPEN into the PIGPEN? A. I created the texture for the exterior of the building using reference material and, you know, giving our own like artistic interpretation of it and I did create a texture for that. Q Did you change the word play to pig? A. Yes, I created that texture")), Exh. E (Hajaj Depo. at 47:5-8 ("I don't know when the idea [for the Pig Pen] was hatched but just to clarify my answer, in your question you said was the idea hatched to create a gentleman's club in the game. Nick Taylor as the artist was entirely responsible from start to finish for the generation of the images that he used in the game of the Pigpen"), 59:6-9 ("[A]s we know, the creation, the naming of the gentleman's club that we are referring to in this game, the Pigpen, was entirely a decision made by Nick Taylor"))).

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108 Hajaj Decl., P 1.

109 *Id.*, P 11.

110 *Id.*, P 12. See also Taylor Decl., P 12 (stating that "the Pig Pen is a very minor part of 'Los Santos' and even a much smaller part of San Andreas").

111 Hajaj, P 13. See also Taylor Decl., P 11 ("Certain things needed to happen in the exterior portion of 'Los Santos' as part of San Andreas' many 'missions.' We specifically created some of the 'Los Santos' locations to serve as the setting for those 'missions.' The Pig Pen was not one of those locations").

112 Hajaj Decl., P 16.

In sum, defendants' own evidence demonstrates that they did not "use[] the plaintiff's [trade dress and] mark to describe the plaintiff's product." *Walking Mountain*, 353 F.3d at 809 (quoting *Cairns*, 292 F.3d at 1151). Defendants' purpose in using plaintiff's trade dress and

mark was not specifically to identify, criticize, or refer to the Play Pen, but rather to create a strip club that fit the virtual world of Los Santos, and was consistent with the theme and tone of San Andreas. Compare *id.* ("The goal [\*\*60] of a nominative use is generally for the 'purposes of comparison, criticism [or] point of reference,'" quoting *New Kids on the Block*, 971 F.2d at 306). See also 3 Thomas J. McCarthy, MCCARTHY ON TRADEMARK AND UNFAIR COMPETITION, § 23:11 (4th ed. 2006) (the nominative fair use test "has been applied to permit parody use of a trademark to *denote the target of the parody*" (emphasis added)).<sup>113</sup> Because the Pig Pen's name and appearance are not identical to the Play Pen's mark and trade dress, the general "likelihood of confusion" test can be applied, and there is no need to look to the alternative, three-part test articulated in *New Kids on the Block*. See *Playboy Enterprises*, 279 F.3d at 801 (explaining that "[w]hen a defendant uses a trademark nominally, the trademark will be identical to the plaintiff's mark, at least in terms of the words in question," and use of the three-part test is necessary because "application of the *Sleekcraft* test, which focuses on the similarity of the mark used by the plaintiff and the defendant, would lead to the incorrect conclusion that virtually all nominative uses are confusing").

113 See Defendants Rockstar Games, Inc. and Take-Two Interactive Software, Inc.'s Reply Memorandum of Law in Support of Their Motion for Summary Judgment ("Defs.' Reply") at 5.

[\*\*61] Moreover, because the Game does not specifically identify the Play Pen as such, the elements of the *New Kids* test cannot readily be applied. See *New Kids on the Block*, 971 F.2d at 308 ("[W]e hold that a commercial user is entitled to a nominative fair use defense provided he meets the following three requirements: First, the product or service in question must be one not *readily identifiable* without use of the trademark; second, only so much of the mark or marks may be used as is reasonably necessary *to identify the product or service*; and third, the user must do nothing that would, in conjunction with the mark, suggest sponsorship or endorsement by the trademark holder" (emphasis added and footnote omitted)). See also *id.* at 308 n. 7 (explaining that under the three-part test, "a soft drink competitor would be entitled to compare its product to Coca-Cola or Coke, but would not be entitled to use Coca-Cola's distinctive lettering," citing, *inter alia*, *Volkswagenwerk*, 411 F.2d at 352 ("Church did not use

Volkswagen's distinctive lettering style or color scheme, nor did he display the encircled 'VW' emblem")).

Defendants [\*\*62] argue that "[t]he fact . . . the reference here is used to conjure the [\*1035] image of something broader than Plaintiff's mark does not affect the analysis" because "[t]he nominative fair use defense is available 'even if the defendant's ultimate goal is to describe his own product.'" <sup>114</sup> In support, they cite *Walking Mountain*, where "the Ninth Circuit held that the use of images of the torso and head of a 'Barbie' doll was a nominative fair use, even though the work was intended to comment upon 'the social implications of Barbie, including issues of sexuality and body image.'" <sup>115</sup> Defendants also cite *Mattel, Inc. v. MCA Records, Inc.*, 28 F.Supp.2d 1120, 1141-42 (C.D. Cal. 1998), *aff'd.* on other grounds, 296 F.3d 894 (9th Cir. 2002), *Clark v. American Online Inc.*, 2000 U.S. Dist. LEXIS 17368, No. CV-98-5650 CAS (CWx), 2000 WL 33535712, \*3-6 (C.D. Cal. Nov. 30, 2000), and *Wham-O, Inc. v. Paramount Pictures Corp.*, 286 F.Supp.2d 1254, 1264 (N.D. Cal. 2003) as authority supporting their view. <sup>116</sup>

114 *Id.* at 6 (quoting *Walking Mountain*, 353 F.3d at 809 (emphasis omitted)).

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115 *Id.* (quoting *Walking Mountain*, 353 F.3d at 811)).

116 *Id.*

Defendants are correct that the nominative fair use defense covers use of another's trademark or trade dress even if the goal is ultimately to describe or promote defendant's product. See *Walking Mountain*, 353 F.3d at 809 (stating that "a defendant's use of a plaintiff's mark is *nominative* when he or she "used the plaintiff's mark to describe the plaintiff's product, *even if the defendant's ultimate goal is to describe his own product*," quoting *Cairns*, 292 F.3d at 1151 (emphasis original)). In *Walking Mountain* and all other cases cited by defendants, however, the alleged infringer's work clearly identified or referenced plaintiff's product or service, even though defendant's ultimate goal in using the trademark or trade dress was to describe or promote his or her product. See *id.* at 810 ("Forsythe's use of the Barbie trade dress is nominative. Forsythe *used Mattel's Barbie figure and head in his works to conjure up associations of Mattel*, while [\*\*64] at the same time to identify his own work, which is a criticism and parody of Barbie. Where use of the trade dress or mark is grounded

in the *defendant's desire to refer to the plaintiff's product* as a point of reference for defendant's own work, a use is nominative" (citation omitted and emphasis added)). See also *Wham-O, Inc.*, 286 F.Supp.2d at 1263 (finding that defendants' use of the yellow "Slip 'N Slide" in a film qualified as a nominative use because "[n]ominative use is the use of a mark to identify or to refer to the mark-holder's product. . . . [D]efendants use plaintiff's mark to identify a product not otherwise readily identifiable. Other verbal formulas (e.g., 'water slide' or 'lubricated plastic sheet') do not capture or identify the toy with adequate specificity, and trademark law does not compel individuals to 'use absurd turns of phrase' simply to avoid trademark liability. In the film, *defendants intend to identify the slide as a specific product; to do so requires the use of the product's name*" (citations and footnote omitted; emphasis added)); *Clark*, 2000 U.S. Dist. LEXIS 17368, 2000 WL 33535712 at \*5 ("*[I]t is obvious from the 'context. . . . [\*\*65] . and surrounding circumstances' of defendant AOL's use of the service marked name 'Dick Clark' [that the use] is descriptive of Dick Clark, the television personality.* In addition to making reference to 'tun[ing] into Dick Clark,' the Mailer also refers to 'danc[ing] to the Beatles' and 'cruis[ing] in a Thunderbird,' each of which are symbols of the 1950s and 1960s era that the Mailer is designed to evoke. None of these symbols refers to an Internet service; as evocations [\*1036] of a historical period, the Beatles and Thunderbird names, as well as plaintiffs' 'Dick Clark' name, refer only to themselves. *Thus, this is a case 'where the defendant uses a trademark ['Dick Clark'] to describe the plaintiff's product [Dick Clark, the historical figure], rather than its own,' and the New Kids three-pronged inquiry is appropriate*" (citations and footnote omitted; emphasis added)); *Mattel, Inc. v. MCA Records, Inc.*, 28 F.Supp.2d at 1141 (stating that the Barbie Girl song "refers to the doll and the values it has come to represent," and "[b]y describing the doll's 'life in plastic' and the various ways young consumers play with the doll ('you can brush [\*\*66] my hair, undress me everywhere'), the band Aqua is not speaking specifically about its own product, but *rather is commenting on and parodying Mattel's*" (emphasis added)).

Here, the evidence presented demonstrates that defendants' intention in creating the Play Pen was not to identify plaintiff's service, but only to describe their own product. The Game clearly reflects this intention. Based on the evidence in the record, the court concludes that defendants are not entitled to assert a nominative fair use

defense.<sup>117</sup> Their motion for summary judgment on this basis is therefore denied.

117 The "law of the case" doctrine "posits that when a court decides upon a rule of law, that decision should continue to govern the same issues in subsequent stages in the same case." *Arizona v. California*, 460 U.S. 605, 618, 103 S. Ct. 1382, 75 L. Ed. 2d 318 (1983). The law of the case doctrine "does not constitute a limitation on the court's power but merely expresses the general practice of refusing to reopen what has been decided." *Slotkin v. Citizens Cas. Co.*, 614 F.2d 301, 312 (2d Cir. 1979). Thus, a court is free to "depart from a prior holding if convinced that it is clearly erroneous and would work a manifest injustice." *Arizona v. California*, 460 U.S. at 619. See also *White v. Murtha*, 377 F.2d 428, 431-32 (5th Cir. 1967). See also *School Dist. No. 1J, Multhnomah County v. AC & S Inc.*, 5 F.3d 1255, 1263 (9th Cir. 1993) ("[R]econsideration is appropriate if the district court (1) is presented with newly discovered evidence, (2) committed clear error or the initial decision was manifestly unjust, or (3) if there is an intervening change in controlling law").

In its order on defendants' motion to dismiss, the court implied that defendants might be able to prevail on a nominative fair use defense if they could show that they used plaintiff's trade dress and trademark to create images of the seedy underbelly of Los Angeles. (Order Granting in Part and Denying in Part Defendants' Motion to Dismiss, and Granting Defendants' Motion to Strike Claim and Prayer for Disgorgement of Profits at 17 (Aug. 25, 2005) ("MTD Order") ("Here, to the extent defendants used plaintiff's trade dress and trademark to parody The Play Pen (see *Walking Mountain*, *supra*, 353 F.3d at 810-11 (parodying Barbie)), or to merely conjure up the image of strip clubs in the 'seedy side' of Los Angeles, they may be able to prevail on a nominative fair use defense")). The court did not reach a final conclusion on the availability of the nominative fair use defense, however, finding that it was not appropriate to make such a determination in the context of a motion to dismiss. (See *id.*) The court's comment, therefore, was not a "deci[sion] upon a rule of law." *Arizona*

, 460 U.S. at 618. In any event, the court finds, upon further review of the case law and review of the factual record as it has been developed, that the mere fact defendants may have sought to "conjure up the image of strip clubs in the 'seedy side' of Los Angeles" will not support successful assertion of a nominative fair use defense. Because the court's earlier comment was clearly erroneous, to base a ruling on it would work a manifest injustice. As a result, reconsideration is appropriate.

**[\*\*67] 2. Whether Defendants' Use Of Plaintiff's Trade Dress And Trademark Is Protected Under The First Amendment**

Citing *MCA Records*, 296 F.3d 894, defendants next argue that they are entitled to summary judgment because the First Amendment protects their use of plaintiff's [\*1037] trade dress and trademark.<sup>118</sup> While plaintiff does not dispute that a First Amendment balancing test applies to this case, it argues that defendants have failed to satisfy the requirements of that test.<sup>119</sup>

<sup>118</sup> Defs.' Mot. at 4-7.

<sup>119</sup> Pl.'s Opp. at 5-7.

**a. Applicability Of The First Amendment Defense In This Case**

In *MCA Records*, the Ninth Circuit held that music companies' use of the "Barbie trademark in a song parodying the doll was entitled to First Amendment protection, and thus not actionable under the Lanham Act. See *MCA Records*, 296 F.3d at 900 ("The First Amendment may offer little protection for a competitor who labels its commercial good with a confusingly similar mark, but '[t]rademark [\*\*68] rights do not entitle the owner to quash an unauthorized use of the mark by another who is communicating ideas or expressing points of view,'" quoting *L.L. Bean, Inc. v. Drake Publishers, Inc.*, 811 F.2d 26, 29 (1st Cir. 1987)). In so holding, the Ninth Circuit adopted the balancing test established by the Second Circuit in *Rogers v. Grimaldi*, 875 F.2d 994 (2d Cir. 1989) for assessing use of a trademark in a literary title. See *MCA Records*, 296 F.3d at 902 ("We agree with the Second Circuit's analysis and adopt the *Rogers* standard as our own"). The *Rogers* balancing test requires that courts construe the Lanham Act "to apply to artistic works *only* where the public interest in avoiding consumer confusion *outweighs* the

public interest in free expression.'" *Walking Mountain*, 353 F.3d at 807 (quoting *Rogers*, 875 F.2d at 999 (emphasis original)). A literary title falls outside the reach of the Lanham Act if it (1) has some artistic relevance and (2) does not explicitly mislead as to the source or content of the work. See *MCA Records*, 296 F.3d at 902 ("[L]iterary titles [\*\*69] do not violate the Lanham Act 'unless the title has no artistic relevance to the underlying work whatsoever, or, if it has some artistic relevance, unless the title explicitly misleads as to the source or the content of the work,'" quoting *Rogers*, 296 F.3d at 999). The Ninth Circuit in *MCA Records* found that the Barbie Girl song easily satisfied both requirements, and therefore did not infringe Mattel's trademark. See *id.*

Despite the fact that the alleged infringement and unfair competition do not involve the title of their work, defendants argue that the *Rogers* balancing test applies. As defendants acknowledge,<sup>120</sup> the Ninth Circuit has not definitively determined whether the *Rogers* test should be applied to "non-titular" uses of trade dress and trademarks. See *Walking Mountain*, 353 F.3d at 808. In *Walking Mountain*, the Ninth Circuit commented that a photographer's use of Barbie's head and overall appearance in his works "presumably would present First Amendment concerns similar to those that made us reluctant to apply the Lanham Act as a bar to the artistic uses of Mattel's Barbie trademark in both *MCA* and this case." [\*\*70] *Id.* The court did not decide whether the *Rogers* test applied, however, as it found that the case could be decided using the nominative fair use framework. See *id.* at 808 ("But we need not decide how the *MCA/Rogers* First Amendment balancing might apply to Forsythe's use of the Barbie trade dress because we find, on a narrower ground, that it qualifies as nominative fair use").

<sup>120</sup> *Id.* at 5.

The court's order denying defendants' motion to dismiss expressed doubt regarding application of the *Rogers* test because *Walking Mountain* "suggested that applying the *Rogers* First Amendment balancing test to 'non-titular' uses of trademarks [\*1038] and trade dress infringement claims might be inappropriate, at least when a nominative fair use defense is also available."<sup>121</sup> See *id.* at 808 n. 14 ("More importantly, if we were to apply the *Rogers* balancing test, we would have to grapple with First Amendment issues. By instead employing the

nominative fair use test - which, incidentally [\*\*71] works well in a case like this - we are following the time-honored tradition of avoiding constitutional questions where narrower grounds are available" (citations omitted)). Even in *Walking Mountain*, however, the Ninth Circuit stated that "[w]ere the nominative fair use test not available and so attractive to this claim, we very well m[ight] have had to apply *Rogers*." *Id.* at 809 n. 17.

121 MTD Order at 13.

Other courts that have considered the issue have extended the *Rogers* First Amendment balancing test to all expressive uses of a trademark or trade dress in artistic works, whether titular or not. See *Cliff Notes, Inc. v. Bantam Doubleday Dell Publ'g Group*, 886 F.2d 490, 495 (2d Cir. 1989) ("We believe that the overall balancing approach of *Rogers* and its emphasis on construing the Lanham Act 'narrowly' when First Amendment values are involved are both relevant in this case [assessing whether the appearance of a book's cover is confusing similar to the trademark elements of the [\*\*72] cover of another work]. That is to say, in deciding the reach of the Lanham Act in any case where an expressive work is alleged to infringe a trademark, it is appropriate to weigh the public interest in free expression against the public interest in avoiding consumer confusion. And just as in *Rogers*, where we said that the expressive element of titles requires more protection than the labeling of ordinary commercial products, so here the expressive element of parodies requires more protection than the labeling of ordinary commercial products. Indeed, we have said, in the context of alleged copyright infringement, that a parody is entitled 'at least' to conjure up the original and can do more. Thus, we hold that "the *Rogers* balancing approach is generally applicable to Lanham Act claims against works of artistic expression, a category that includes parody"); 2 Thomas J. McCarthy, MCCARTHY ON TRADEMARK AND UNFAIR COMPETITION, § 10:22 (4th ed. 2006) ("The courts have expanded the *Rogers* balancing approach to encompass all 'works of artistic expression'"). See, e.g., *ETW Corp. v. Jireh Publ'g, Inc.*, 332 F.3d 915, 920, 937 (6th Cir. 2003) (applying the [\*\*73] *Rogers* test in a case where an artist used the registered mark, "Tiger Woods," in marketing materials that accompanied prints of a painting of the Masters of Augusta golf tournament, although the trademarked words did not appear on the face of the prints or in the title of painting); *Yankee*

*Publ'g Inc. v. News Am. Publ'g Inc.*, 809 F.Supp. 267, 276-78 (S.D.N.Y. 1992) (finding that defendant's use of certain elements of the cover design of the *Old Farmer's Almanac* to "make[] a joking reference to the *Almanac*, as part of a socio-economic commentary," was "entitled to the protections explained by the Court of Appeals in *Rogers v. Grimaldi* and *Cliffs Notes*"); *Ocean Bio-Chem, Inc. v. Turner Network Television, Inc.*, 741 F.Supp. 1546, 1552-53 (S.D. Fla. 1990) (holding, in a case where the owner of the trademark "Star Brite" sued the producers of a fictional television movie that portrayed a fictional company called "Starbrite Batteries" in a bad light, that the film was "entitled to the full extent of protection afforded by the first amendment" and therefore "the Lanham Act must be construed narrowly," citing *Cliff's Notes*, 886 F.2d at 494-95). [\*\*74]

[\*1039] Defendants' work is a highly complex video game. It features three virtual cities, each of which contains hundreds of interactive locations created by animated graphics. The Game also incorporates a narrative, and offers an array of musical soundtracks. San Andreas clearly qualifies as an "artistic work" entitled to First Amendment protection. See *Video Software Dealers Ass'n v. Schwarzenegger*, 401 F.Supp.2d 1034, 1044 (N.D. Cal. 2005) (stating that video games, "even though mere entertainment, are nonetheless protected by the First Amendment"). See also *Interactive Digital Software Ass'n v. St. Louis County*, 329 F.3d 954, 957 (8th Cir. 2003) ("The record in this case includes scripts and story boards showing the storyline, character development, and dialogue of representative video games, as well as excerpts from four video games submitted by the County. If the first amendment is versatile enough to 'shield [the] painting of Jackson Pollock, music of Arnold Schoenberg, or Jabberwocky verse of Lewis Carroll,' we see no reason why the pictures, graphic design, concept art, sounds, music, stories, and narrative present in video games are not entitled [\*\*75] to a similar protection. The mere fact that they appear in a novel medium is of no legal consequence. Our review of the record convinces us that these 'violent' video games contain stories, imagery, 'age-old themes of literature,' and messages, 'even an "ideology," just as books and movies do.' Indeed, we find it telling that the County seeks to restrict access to these video games precisely because their content purportedly affects the thought or behavior of those who play them" (citations omitted)); *Video Software Dealers Ass'n v. Maleng*, 325 F.Supp.2d 1180, 1184-85 (W.D. Wash. 2004) ("The early generations of video games may have

lacked the requisite expressive element, being little more than electronic board games or computerized races. The games at issue in this litigation, however, frequently involve intricate, if obnoxious, story lines, detailed artwork, original scores, and a complex narrative which evolves as the player makes choices and gains experience. All of the games provided to the Court for review are expressive and qualify as speech for purposes of the First Amendment. In fact, it is the nature and effect of the message being communicated by these [\*\*76] video games which prompted the state to act in this sphere. As noted by the Eighth Circuit: 'Whether we believe the advent of violent video games adds anything of value to society is irrelevant; guided by the [F]irst [A]mendment, we are obliged to recognize that 'they are as much entitled to the protection of free speech as the best of literature.' The Court finds that the games at issue are expressive and qualify for the protections of the First Amendment" (citations omitted)).

As the court has found, and as ESS itself argues, <sup>122</sup> defendants did not incorporate plaintiff's trade dress or trademark into the Game to identify the Play Pen. Rather, the undisputed evidence shows that defendants used elements of plaintiff's trade dress and mark to create a cartoon-style strip club that fit the virtual world of East Los Santos, the Game's imaginary version of East Los Angeles, and that conveyed the Series' irreverent humor. <sup>123</sup> Because defendants' use of plaintiff's trade dress and trademark are "part of a communicative message and not a source identifier, the First Amendment is implicated in opposition to the trademark right," and the nominative fair use defense is unavailable. [\*\*77] *Yankee Publ'g Inc.*, 809 F.Supp. at 276. The weight of authority holds that in [\*1040] these circumstances, the *Rogers* test must be applied to strike the proper balance between "the public interest in free expression [and] the public interest in avoiding consumer confusion." *Cliff Notes*, 886 F.2d at 494 (citations omitted)); *Yankee Publ'g Inc.*, 809 F.Supp. at 276 ("Thus, where the unauthorized use of a trademark is for expressive purposes of comedy, parody, allusion, criticism, news reporting, and commentary, the law requires a balancing of the rights of the trademark owner against the interests of free speech" (citations and footnote omitted)). Cf. *Walking Mountain*, 353 F.3d at 809 n. 17 ("Were the nominative fair use test not available and so attractive to this claim, we very well may have had to apply *Rogers*"). The court therefore turns to the individual elements of the *Rogers* test.

<sup>122</sup> See Pl.'s Opp. at 15.

<sup>123</sup> See Defs.' Facts, P 30; Pl.'s Statement, P 30.

#### [\*\*78] b. Whether The Pig Pen Has Artistic Relevance To The Game

To prevail on a First Amendment defense, defendants must first show that the use of plaintiff's trade dress and trademark "surpasses the minimum threshold of artistic relevance to the [work's] content." *Rogers*, 875 F.2d at 999; *MCA Records*, 296 F.3d at 902. Plaintiff argues that defendants have not met this requirement. <sup>124</sup> Specifically, plaintiff contends that while defendants may be entitled, under the First Amendment, to depict "such landmark structures as the Watts Towers and the Los Angeles Convention Center for Los Santos, and the Golden Gate Bridge and the Transamerica Pyramid for San Fiero (their virtual version of San Francisco), defendants' use of the Play Pen trade dress and mark does not qualify for protection because the Play Pen logo and other features of its business premises have not "achieved that sort of iconic stature." <sup>125</sup> Plaintiff also assert that "[w]hile the copying of the *architectural style* of the Play Pen building might be relevant to defendants' claimed purpose of achieving a realistic portrayal of the area, their copying of plaintiff's work mark, [\*\*79] logo, and trade is not." <sup>126</sup>

<sup>124</sup> Pl.'s Opp. at 5-7.

<sup>125</sup> *Id.* at 6.

<sup>126</sup> *Id.* at 6-7.

The content of San Andreas is undisputed. San Andreas is a video game that allows players to step into the shoes of Carl Johnson or "CJ," a former gang member, <sup>127</sup> and experience the Game's version of West Coast "gangster" culture. <sup>128</sup> As CJ, players can visit locations in three cities - Los Santos, San Fierro, and Las Venturas; these virtual metropolises are modeled after Los Angeles, San Francisco, and Las Vegas respectively. <sup>129</sup> The Game opens with CJ arriving at Los Santos International Airport to attend his mother's funeral. After leaving the airport, CJ is picked up almost immediately by corrupt police officers, who steal his money and throw him out of their patrol car in the middle of a rival gang's territory. <sup>130</sup> East Los Santos, the Game's version of East Los Angeles, <sup>131</sup> is a gritty and dangerous urban district; shootouts between warring gangs are common, as are drug dealers and prostitutes. [\*\*80] <sup>132</sup> The neighborhood contains cartoon-style liquor stores, ammunition dealers, casinos, pawn shops, bars, [\*1041]

strip clubs, and similar types of businesses.<sup>133</sup>

127 See German Decl., Exh. 9 (PC version of the San Andreas Game), Exh. 10 (Signature Series Guide at 18).

128 Defs.' Facts, P 12; Pl.'s Statement, P 12.

129 Defs.' Facts, P 13; Pl.'s Statement, P 13.

130 German Decl., Exh. 9 (PC version of the San Andreas Game), Exh. 10 (Signature Series Guide at 18).

131 Defs.' Facts, P

132 Defs.' Facts, PP 14, 17; Pl.'s Statement, PP 14, 17.

133 Defs.' Facts, P 20; Pl.'s Statement, P 20.

When creating Los Santos, defendants' artists sought to mimic the look and feel of real-life locations and businesses.<sup>134</sup> They altered aspects of the actual locations, however, to fit their vision of Los Santos and the Series' signature brand of humor.<sup>135</sup> For example, the Game features an ammunition store called "Ammu-Nation," located in downtown Los Santos. The advertisement for the store in [\*\*81] the San Andreas City Guides states: "AMMU-NATION FOR ALL YOUR DAILY FIREARM NEEDS. NO RECORD NO WORRIES." The advertisement is endorsed by SAGA, the San Andreas Gun Association, whose slogan is "Say Yes to Guns."<sup>136</sup> The "ritzy Rodeo district" of Los Santos contains a retail clothing store called "Victim." The store's advertisement has the word, "VICTIM," with what appears to be a pool of blood on the letters "I" and "C," and the slogan "TO DIE FOR" underneath.<sup>137</sup> During one of the early missions, CJ and his brother Sweet visit the "Cluckin' Bell" drive-thru restaurant just before they become involved in a drive-by shooting and must, as the Signature Series Guide puts it, "Pursue Gang Car Before They Cap Your Homies!"<sup>138</sup>

134 Defs.' Facts, PP 17, 24; Pl.'s Statement, PP 17, 24.

135 Defs.' Facts, PP 5, 30; Pl.'s Facts, P 5. See Helping Decl., Exh. D (Taylor Depo. at 37:21-24); Taylor Decl., P 8.

136 German Decl., Exh. 9 (Grand Theft Auto San Andreas: City Guides ("City Guides") at 23). The PC version of the San Andreas Game is attached to the back cover of the City Guides. (See *id.*)

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137 *Id.*, Exh. 9 (City Guides at 22).

138 *Id.*, Exh. 10 (Signature Series Guide at 26). At the hearing, plaintiff argued that its mark was the only trademark used in the game. "Cluckin' Bell," however, is an example of another mark that defendants used in modified form in the Game.

The Pig Pen has artistic relevance to defendants' twisted, irreverent image of urban Los Angeles. The undisputed evidence shows that in designing the Pig Pen, Nikolas Taylor used reference photographs of the Play Pen and other East Los Angeles locations for inspiration. Taylor made several modifications to the strip club, most obviously changing the name of the business to the "Pig Pen." In making these changes, Taylor did not specifically intend to parody the patrons of gentlemen's clubs or convey a humorous message about pigs.<sup>140</sup> Rather, as his deposition and declaration demonstrate, however, Taylor sought to make the strip club fit the virtual environment of Los Santos and the irreverent tone of the Series in general.<sup>141</sup> Rather than being arbitrary, defendants' decision to borrow the Play Pen [\*\*83] trade dress and mark was closely connected to the artistic design of Los Santos and the overall theme of the Game. See *Rogers*, 875 F.2d at 1001 ("[T]he title 'Ginger and Fred' surpasses the minimum threshold [\*1042] of artistic relevance to the film's content. The central characters in the film are nicknamed 'Ginger' and 'Fred,' and these names are not arbitrarily chosen just to exploit the publicity value of their real value counterparts but instead have genuine relevance to the film's story"). See also *ETW Corp.*, 332 F.3d at 937 (holding that an artist's use of Tiger Wood's image had artistic relevance to the underlying work, which was a panoramic painting of Woods' victory at the 1997 Masters Tournament, titled *The Masters of Augusta*); *New York Racing Ass'n v. Perlmutter Publ'g, Inc.*, 959 F.Supp. 578, 582 (N.D.N.Y. 1997) (reaffirming an earlier holding that "the Defendants' use of Plaintiff's marks in the titles of Defendants' paintings serves the artistically relevant purpose of describing the scene depicted in the paintings, . . . that the use of Plaintiff's marks in Defendants' paintings where the mark actually appears in the scene [\*\*84] depicted serves the artistically relevant purpose of accurately depicting the scene (realism)" and that "[a]s a result, . . . the Lanham Act should not apply to the Defendants' shirts that display reproductions of these paintings because the interest in free expression outweighs the need to avoid consumer confusion" (footnote omitted)); *Yankee Publ'g Inc.*, 809 F.Supp. at

278 (finding that use of the *Old Farmer's Almanac* cover design in *New York's* Christmas gift issue was relevant to defendants' "thrift" theme; "Yankee argues that the so-called 'thrift' theme is not consistently pursued and is, indeed, at time[s], contradicted in *New York's* gift piece. It argues, further, that the offered explanation of the reference to the *Almanac* is disingenuous because the *Almanac* is not synonymous with thrift. The argument is not successful. It is undeniable that the thrift theme is present in the *New York* gift issue. . . . The fact that aspects of the feature also contradict the thrift theme does not belie the existence of the thrift theme. . . . Yankee's assertion that the *Almanac* is not synonymous with thrift is also irrelevant. Whether rightly or wrongly, farmers, [\*\*85] farm values, and the *Almanac* are associated by many with thrift. The fact that the *Almanac* does not expressly proclaim the value of thrift does not undermine the good faith of *New York's* claim that its reference to the *Almanac* was intended to evoke the value of thrift").

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139 Defs.' Facts, PP 35, 36; Pl.'s Statement, PP 35, 36.

140 Helping Decl., Exh. D (Taylor Depo. at 65:15-23, 105:17-106:8).

141 See Taylor Decl., PP 8-9; Helping Decl., Exh. D (Taylor Depo. at 105:17-106:8 ("Q. Okay. Did anything humorous about pigs in any way influence your artistic creation of the PIGPEN? A. I can't remember. . . . Q. As you sit here today can you think of anything funny about pigs that may have inspired or influenced your artistic rendition of the PIGPEN? A. *It just seemed, you know, to fit in*" (emphasis added)), 37:19-25 ("Q. Did you have specific reasons for doing the things you did in the creation of the PIGPEN logo? A. I think the changes that I made to it made it more follow the theme of the game, made it more like part of the game, made it more part of Los Santos as a virtual environment"))).

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142 A "parody," in the legal sense, is a "literary or artistic work that imitates the characteristic style of an author or a work for comic effect or ridicule." *Walking Mountain*, 353 F.3d at 801 (quoting *Campbell*, 510 U.S. at 580). Under copyright law, "a parodist may claim fair use where he or she uses some of the 'elements of a prior author's composition to create a new one that, at least in part, comments on that author's

works.'" *Id.* (same). As explained in *Walking Mountain*:

"The original work need not be the sole subject of the parody; the parody 'may loosely target an original' as long as the parody 'reasonably could be perceived as commenting on the original or criticizing it, to some degree.' That a parody is in bad taste is not relevant to whether it constitutes fair use; 'it would be a dangerous undertaking for persons trained only to the law to constitute themselves final judges of the worth of [a work].'" *Id.* (quoting *Campbell*, 510 U.S. at 580-83 (internal citations omitted)).

Courts have applied the concept of parody to the trademark and trade dress contexts as well. See, e.g., *Cliff Notes*, 886 F.2d at 494 ("[T]he keystone of parody is imitation. It is hard to imagine, for example, a successful parody of *Time* magazine that did not reproduce *Time's* trademarked red border. A parody must convey two simultaneous - and contradictory - messages: that it is the original, but also that it is not the original and is instead a parody. To the extent that it does only the former but not the latter, it is not only a poor parody but also vulnerable under trademark law, since the customer will be confused"); *Yankee Publ'g Inc.*, 809 F.Supp. at 279 ("Parody implicates an element of ridicule, or at least mockery" (footnote omitted)).

The parties dispute whether the Pig Pen is a "parody" of the Play Pen, or part of a larger "parody" of Los Angeles. The court need not decide this question, since parody is not the exclusive form of expression protected under the First Amendment. See *Yankee Publ'g Inc.*, 809 F.Supp. at 279 ("But the dispute as to whether *New York's* cover was parody misses the point. Yankee's argument implies that the special considerations emanating from the First Amendment depend on whether the allegedly infringing work is one of parody. That is not correct. Because unauthorized uses that provoke



litigation, both in the copyright and in the trademark field, often involve parody, the decisions often discuss the special latitudes that are afforded to parody. But parody is merely an example of the types of expressive content that are favored in fair use analysis under the copyright law and First Amendment deference under the trademark law. Indeed, of the two leading trademark cases that have explained that deference in the Second Circuit, while *Cliffs Notes* dealt with parody, *Rogers v. Grimaldi* did not. The message of these cases is not merely that parody is accorded First Amendment deference, but rather that the use of a trademark in the communication of an expressive message is accorded such deference" (emphasis in original)).

Here, it is undisputed that Taylor designed the Pig Pen to fit the Series' irreverent tone and signature brand of humor. Whether or not his depiction of the Pig Pen is a "parody," it satisfies the first element of the First Amendment balancing test. See *Rogers*, 875 F.2d at 1001; see also *Yankee Publ'g Inc.*, 809 F.Supp. at 276 ("Thus, where the unauthorized use of a trademark is for expressive purposes of comedy, parody, allusion, criticism, news reporting, and commentary, the law requires a balancing of the rights of the trademark owner against the interests of free speech" (citations and footnote omitted; emphasis added)).

[\*\*87] [\*1043] Plaintiff asserts that defendants cannot satisfy the first requirement of the *Rogers* test because the Play Pen is not as recognizable a landmark as the Los Angeles Convention Center or the Golden Gate Bridge, and also because defendants did not copy everything about the Play Pen, most notably, the architectural style of its building. Plaintiff cites no authority supporting its argument that these distinctions are material to the *Rogers* inquiry.<sup>143</sup> If such authority exists, it would contradict *Rogers*, which makes it clear that the court's inquiry is limited to determining whether the title has some artistic relevance to the underlying work; it does not extend to assessing whether use of the trade dress or mark is absolutely necessary to the goals of the artist. See *Rogers*, 875 F.2d at 999 (literary titles do not violate the Lanham Act "unless the title has no artistic relevance to the underlying work whatsoever, or, if it has some artistic relevance, unless the title explicitly misleads

as to the source or the content of the work"); *MCA Records*, 296 F.3d at 902 (same).

143 See Pl.'s Opp. at 6-7.

[\*\*88] The court concludes that defendants' use of the Play Pen trade dress and mark satisfies this standard. Defendants' aim in creating East Los Santos was to evoke an image of East Los Angeles, but to tweak that image to fit the overall "look and feel" of San Andreas, as well as the narrative of a city overrun by gangs, drug dealers, and prostitutes. Any visual work that seeks to offer an artistic commentary on a particular subject must use identifiable features of that subject so that the commentary will be understood and appreciated by the consumer. See *Cliff Notes*, 886 F.2d at 494 (stating that the key to a successful parody is imitation); *Yankee Publ'g Inc.*, 809 F.Supp. at 277-80 (use of elements of the *Almanac* cover design had artistic relevance to *New York's* joking reference). Here, defendants incorporated distinctive elements of the Play Pen name, logo, and trade dress, perhaps not to identify the Play Pen itself, but to create a locale that players would readily recognize as the Game's version of East Los Angeles. Because defendants' artistic objective was to construct an "East Los Angeles"-like neighborhood in San Andreas, and not to [\*89] [\*1044] produce an exact replica of East Los Angeles, it was unnecessary for defendants to copy everything about the Play Pen, including the architectural style of its building. See *Cliff Notes*, 886 F.2d at 496 (observing that "while the cover of *Spy Notes* certainly conjures up the cover of *Cliffs Notes*, the two differ in many respects"). Compare *New York Racing Ass'n, Inc. v. Perlmutter Publ'g, Inc.*, 1996 U.S. Dist. LEXIS 11764, No. 95-CV-994 (FJS), 1996 WL 465298, \*4-5 (N.D.N.Y. July 19, 1996) (holding, where the stated artistic purpose was realism, that an artist's use of plaintiff's registered "Saratoga" mark in a painting depicting the Saratoga Race Course scoreboard was protected by the First Amendment because "incorporating one of plaintiff's marks in a painting that depicts a scene in which the mark actually exists serves the artistically relevant purpose of accurately depicting that scene," but finding that the First Amendment did not protect "defendants' products that display paintings which incorporate one of plaintiff's marks and the mark does not actually exist in the scene depicted"). Furthermore, it would have been contrary to defendants' aesthetic theme to put a landmark like the [\*90] Los Angeles Convention Center or the Golden Gate Bridge in the middle of East Los Santos. While it

might have been possible for defendants to mimic a more famous strip club in East Los Angeles, if one exists, *the Rogers* test is not an "absolute necessity or an "alternative means" test. *Rogers* simply requires that defendants' use of the trademark or trade dress bear *some* artistic relevance to the work. San Andreas satisfies this test.

**c. Whether Defendants' Use Explicitly Misleads As To The Source Or Content Of The Game**

The second prerequisite to assertion of a successful First Amendment defense is that the use of the mark not explicitly mislead as to the source or content of the work. *MCA Records*, 296 F.3d at 902; see also *Rogers*, 875 F.2d at 999. It is clear that defendants' use of plaintiff's trade dress and mark does not explicitly mislead consumers as to the *content* of the Game. Although Rockstar Games has advertised San Andreas nationally, both in print and on television, none of these advertisements features an image of the Pig Pen.<sup>144</sup> The Pig Pen does not appear in any promotional literature for San Andreas, nor does [\*\*91] it appear on the exterior packaging of the Game.<sup>145</sup> Consequently, consumers are not exposed to the Pig Pen until after they purchase and play the Game.<sup>146</sup> Even then, there is no guarantee that a consumer will actually see the Pig Pen. Although a player is free to visit any location in Los Santos, none of San Andreas's missions requires a player to go to the Pig Pen.<sup>147</sup> It is possible to play the Game for many hours and accomplish all the set missions without ever entering or passing the Pig Pen.<sup>148</sup>

144 Defs.' Facts, PP 45, 46; Pl.'s Statement, PP 45, 46.

145 Defs.' Facts, PP 44, 46; Pl.'s Statement, PP 44, 46.

146 Defs.' Facts, P 83; Pl.'s Statement, P 83.

147 Defs.' Facts, P 47; Pl.'s Statement, P 47.

148 Defs.' Facts, P 49 (Taylor Decl., PP 11-13; Hajaj Decl., PP 12, 13; McPherson Decl., Exh. 1 (McPherson Report at 11)).

As these facts show, defendants' use of the Play Pen trade dress and mark presents little, if any, chance that consumers will be misled about the content of [\*\*92] the Game. Indeed, deception is less likely here than in *Rogers* or *MCA Records*, where the title of the defendant's work incorporated the plaintiff's trademark. See *Rogers*, 875 F.2d at 1001 (holding that the title [\*\*1045] of the film, "Ginger and Fred," did not explicitly mislead consumers into believing that Ginger Rogers

approved or produced the film); *MCA Records*, 296 F.3d at 901 ("There is no doubt that MCA uses Mattel's mark: Barbie is one half of Barbie Girl. But Barbie Girl is the title of a song about Barbie and Ken, a reference that - at least today - can only be to Mattel's famous couple. We expect a title to describe the underlying work, not to identify the producer, and Barbie Girl does just that"). See also *Woodard v. Jackson*, 2004 U.S. Dist. LEXIS 6292, No. 1:03-CV-0844-DFH, 2004 WL 771244, \*7 (S.D. Ind. Mar. 25, 2004) (holding that plaintiffs' Lanham Act claim failed "with respect to the erroneous statement in the liner notes that the group had been known as 'Ripples and Waves' before adopting the Jackson 5 name, [since] the representation inside a sealed CD package could not have an effect on the purchasing decision of a consumer," and rejecting [\*\*93] plaintiffs' theory that "that some customers might have read the liner notes before buying the CD, either by seeing a friend's copy or an opened store copy" as "merely desperate speculation . . . [that] is inconsistent with the Ninth Circuit's decision in *Rice*, where such exposure to a friend's copy was also possible," citing *Rice v. Fox Broadcasting Co.*, 330 F.3d 1170, 1181 (9th Cir. 2003) (an allegedly false statement on a video jacket that was not available to the buyer until after purchase via telephone could not have affected the purchase decision)).

The court also finds that the Pig Pen does not explicitly mislead consumers as to the *source* of defendants' work. Although the Pig Pen incorporates certain elements of the Play Pen's logo, neither the Game nor any promotional materials for San Andreas "contain[] [any] explicit indication that [the Play Pen's owners] endorsed the [work] or had a role in producing it." *Rogers*, 875 F.2d at 1001. While the similar font and common use of nude silhouettes might suggest an association between the Play Pen and the Game to some consumers, this is not enough to defeat First Amendment protection [\*\*94] under *Rogers*. *Id.*; see also *MCA Records*, 296 F.3d at 902 ("The *only* indication that Mattel might be associated with the song is the use of Barbie in the title; if this were enough to satisfy this prong of the *Rogers* test, it would render *Rogers* a nullity"). Compare *New York Racing Ass'n*, 959 F.Supp. at 583 & n. 11 (finding that the First Amendment permitted the artist to use the "Saratoga" mark to depict a scene of the Saratoga Race Course, since it posed little risk of confusion, and noting that the use of a more prominent mark such as "Coca-Cola" or "GIANTS" would "create a much greater likelihood of consumer

confusion than the present case").

Plaintiff disputes this, asserting that defendants' use of its trade dress and trademark explicitly misleads consumers about who might have endorsed the Game. It provides no evidence or argument explicating this contention, however.<sup>149</sup> Rather, it relies on arguments regarding the likelihood of confusion, and in particular, on the results of Dr. Carol Scott's consumer survey. As *MCA Records* makes clear, however, when First Amendment interests are implicated, the *Rogers* "explicitly [\*95] misleading" standard applies, not the traditional "likelihood of confusion" test. See *MCA Records*, 296 F.3d at 900 ("Our likelihood-of-confusion test generally strikes a comfortable balance between the trademark owner's property rights and the public's expressive interests. But when a trademark owner asserts a right to control how we express ourselves . . . applying the traditional test fails to account for the full weight of the public's interest in free expression"); see also *id.* at 901-02 (discussing [\*1046] *Rogers*, and noting that "[i]f a pair of dancing shoes had been labeled Ginger and Fred, a dancer might have suspected that Rogers was associated with the shoes (or at least one of them), just as Michael Jordan has endorsed Nike sneakers that claim to make you fly through the air. But *Ginger and Fred* was not a brand of shoe; it was the title of a movie and, for the reasons explained by the Second Circuit, deserved to be treated differently").

149 See Pl.'s Opp. at 7.

[\*\*96] In *Rogers*, Ginger Rogers offered a consumer survey similar to Dr. Scott's to support her claim that the "Ginger and Fred" film engendered confusion regarding sponsorship and endorsement. Rogers' survey sampled 201 likely moviegoers; half of the participants were shown a card with the title "Ginger and Fred," and the other half were shown a real advertisement for the movie. *Rogers*, 875 F.2d at 1001 n. 8. Of the 201 persons surveyed, 38 percent expressed the belief that Ginger Rogers had something to do with the film. Of that 38 percent, approximately a third responded "yes," to the question, "Do you think Ginger Rogers was involved in any way with the making this film or not?" Thus, the survey showed that 14 percent of all respondents felt that the title suggested that Rogers had been involved in production of the film. *Id.* Despite this survey, the Second Circuit concluded that Ginger Rogers had not raised a genuine issue regarding sponsorship that

required submission of the case to the jury. *Id.* at 1001. It explained:

"The survey evidence, even if its validity is assumed, indicates at most that some members of the public would draw [\*97] the incorrect inference that Rogers had some involvement with the film. But that risk of misunderstanding, not engendered by any overt claim in the title, is so outweighed by the interests in artistic expression as to preclude application of the Lanham Act." *Id.*

See also *ETW Corp.*, 332 F.3d at 937 ("We find, like the court in *Rogers*, that plaintiff's survey evidence, even if its validity is assumed, indicates at most that some members of the public would draw the incorrect inference that Woods had some connection with Rush's print. The risk of misunderstanding, not engendered by any explicit indication on the face of the print, is so outweighed by the interest in artistic expression as to preclude application of the Act. We disagree with the dissent's suggestion that a jury must decide where the balance should be struck and where the boundaries should be drawn between the rights conferred by the Lanham Act and the protections of the First Amendment" (footnote omitted)).

Dr. Scott surveyed 503 San Andreas players. Each was shown a screen shot of the Pig Pen and asked what the image called to mind. Only sixteen of the 503 survey participants mentioned [\*98] the Play Pen,<sup>150</sup> and only five said they believed the Pig Pen was endorsed by, sponsored by, or affiliated with the Play Pen.<sup>151</sup> Of the respondents who stated that they had been in a strip club or planned to go to one, only 4.4 percent thought the Pig Pen was endorsed by, sponsored by, or affiliated with the Play Pen.<sup>152</sup> Dr. Scott's survey demonstrates that the Pig Pen presents a low likelihood of confusion regarding the Play Pen's sponsorship or endorsement of the Game - much lower, in fact, than the survey in *Rogers*. Rather than undercutting defendants' position, therefore, Dr. Scott's survey results support their contention that the Pig Pen does not explicitly mislead consumers into believing that Play Pen approved, or participated in making, [\*1047] San Andreas. See *Yankee Publ'g Inc.*, 809 F.Supp. at 280 ("Yankee may well be correct in its surmise that many readers may have failed to understand the comic point intended by *New York* in its use of

Yankee's trade dress. The joke is indeed quite complicated. . . . In *Rogers v. Grimaldi*, the movie title "Ginger and Fred" was highly susceptible to consumer confusion. Many consumers may have assumed that the [\*\*99] movie was in fact an authorized story of Ginger Rogers and Fred Astaire. Nothing about that title made it obvious that it was otherwise. The likelihood of confusion in *Rogers v. Grimaldi* was far greater than here for there were no visible signs accompanying the title to show consumers that the movie was not in fact about Rogers and Astaire. Nonetheless the court found that the First Amendment interests prevailed. Although *New York's* position would probably be stronger if its joke had been clearer, the obscurity of its joke does not deprive it of First Amendment support. First Amendment protections do not apply only to those who speak clearly, whose jokes are funny, and whose parodies succeed" (citations omitted)).

150 Defs.' Facts, P 68; Pl.'s Statement, P 68.

151 Defs.' Facts, P 81; Pl.'s Statement, P 81.

152 Defs.' Facts, P 82; Pl.'s Statement, P 82.

This conclusion is further supported by the fact that video games and strip clubs are not related products, and the Play Pen and San Andreas [\*\*100] do not directly compete for purchasers. <sup>153</sup> E.S.S. does not contend that it has ever been in the video game business or that it has plans to enter that business. <sup>154</sup> Rockstar Games and Take-Two Interactive, on the other hand, have never been in the strip club business and have no plans to enter that business. <sup>155</sup> The difference between the parties' businesses and product lines makes it improbable that a player who sees the Pig Pen, and recognizes that it was modeled after the Play Pen, will believe that the owners of the Play Pen endorsed or sponsored the Game. See *Westchester Media v. PRL USA Holdings, Inc.*, 214 F.3d 658, 666-67 (5th Cir. 2000) ("In general, '[t]he greater the similarity between products and services, the greater the likelihood of confusion.' But direct competition between the parties' products is not required in order to find a likelihood of confusion. When products or services are noncompeting, the confusion at issue is one of sponsorship, affiliation, or connection. The danger of affiliation or sponsorship confusion increases when the junior user's market is one into which the senior user would naturally expand. . . . 'If consumers believe, [\*\*101] even though falsely, that the natural tendency of producers of the type of goods marketed by the prior user is to expand into the market for the type of goods

marketed by the subsequent user, confusion may be likely'" (citations omitted)); *Yankee Publ'g Inc.*, 809 F.Supp. at 278-79 ("Yankee's contention that *New York* was seeking to free ride on Yankee's goodwill simply makes no sense in these circumstances. The *Old Farmer's Almanac* and *New York* aim at completely different readerships and offer fundamentally different values. . . . *New York's* own mark is highly successful with a certain category of reader. Yankee's trademark is highly successful with a totally different category of reader. There is virtually no likelihood that *Old Farmer's Almanac's* readership could be wooed successfully to *New York*. Nor is *Old Farmer Almanac's* trademark successful among potential readers of *New York*. Yankee has offered no persuasive explanation of how *New York* could gain advantage by attempting to free ride on [\*\*1048] Yankee's goodwill through a confusing imitation of Yankee's cover"). See also *MCA Records*, 296 F.3d at 902 ("If we see a painting [\*\*102] titled 'Campbell's Chicken Noodle Soup,' we're unlikely to believe that Campbell's has branched into the art business. Nor, upon hearing Janis Joplin croon 'Oh Lord, won't you buy me a Mercedes-Benz?,' would we suspect that she and the carmaker had entered into a joint venture. A title tells us something about the underlying work but seldom speaks to its origins"). <sup>156</sup>

153 Defs.' Facts, P 69; Pl.'s Statement, P 69.

154 Defs.' Facts, P 79; Pl.'s Statement, P 79.

155 Defs.' Facts, P 80; Pl.'s Statement, P 80.

156 At the hearing, plaintiff raised a slightly different argument: It asserted that defendants had misled consumers by using more of the mark and the trade dress than necessary to achieve their stated artistic purpose. Plaintiff cited no authority in support of this position, and the court is aware of none. It appears that plaintiff may have confused the First Amendment balancing test with the nominative fair use test. To prove nominative fair use, a defendant must show, *inter alia*, that it used "only so much of the mark or marks . . . as [was] reasonably necessary to identify the plaintiff's product or service," and that it did "nothing that would, in conjunction with the mark, suggest sponsorship or endorsement by the trademark holder." *Walking Mountain*, 353 F.3d at 810 (citation omitted). The *Rogers* test, by contrast, has no requirement that the defendant use "only so much of the mark or marks . . . as is reasonably necessary" to convey an artistic idea or

message. Thus, plaintiff's argument in this regard fails.

Another requirement of the nominative fair use test is that the user of the trademark or trade dress do "nothing that would, in conjunction with the mark, suggest sponsorship or endorsement by the trademark holder." *Walking Mountain*, 353 F.3d at 810 (citation omitted) *Rogers*, by contrast, states that an artistically relevant use of a mark falls outside the Lanham Act "unless the title *explicitly misleads* as to the source or the content of the work." *Rogers*, 875 F.2d at 999 (emphasis added)). This standard appears to be less demanding than the comparable aspect of nominative fair use test. Compare *Walking Mountain*, 353 F.3d at 810 (the defendant must have done "nothing that would, in conjunction with the mark, *suggest* sponsorship or endorsement by the trademark holder" (emphasis added)). Defendants could satisfy the third requirement for nominative fair use, since no reasonable player who passed the Pig Pen and recognized that it was modeled after the Play Pen would believe that the Play Pen's owners had endorsed the virtual club. See *Walking Mountain*, 353 F.3d at 811 (stating that, in applying the nominative fair use test, "[c]ritical works are much less likely to have a perceived affiliation with the original work," citing *New Kids on the Block*, 971 F.2d at 309 (finding no suggested sponsorship in part because a poll in a magazine regarding the popularity of the New Kids asked if the New Kids had become a 'turn off')); see *id.* at 811-12 n. 21 (noting that the Ninth Circuit has "also found for the defendant on this factor even in situations where there was some amount of ambiguity," citing *Cairns*, 292 F.3d at 1154-56 (concluding that there was no suggestion of sponsorship despite an assertion by Franklin Mint in its advertisements that all proceeds would go to Diana's charities and that a Diana porcelain doll was the only *authentic* replica of Diana's famous gown)). Consequently, defendants clearly satisfy *Rogers'* requirement that their use of the trademark and trade dress not explicitly mislead as to source or content.

[\*\*103] In sum, the court finds that defendants' use of the Play Pen trade dress and trademark (1) bears some

artistic relevance to the Game, and (2) does not explicitly mislead consumers as to the source or content of the Game. Because defendants have met both requirements of the *Rogers* balancing test, they are entitled, as a matter of law, to a First Amendment defense to plaintiff's Lanham Act claims. The court therefore grants defendants' motion for summary judgment on plaintiff's first cause of action.<sup>157</sup>

157 Defendants raise two additional arguments in support of their motion for summary judgment. They contend that their use of plaintiff's trade dress and mark is not confusing as a matter of law. (Defs.' Mot. at 10-23.) They also assert that their use is a non-trademark use. (*Id.* at 23-24.) Because the court has found that defendants have a valid First Amendment defense to the Lanham Act claim, it need not address these additional grounds.

**[\*1049] C. Plaintiff's Causes Of Action For State Law Trademark Infringement [\*\*104] And Unfair Competition Claims**

Plaintiff's remaining causes of action allege claims for state law trademark infringement under Business & Professions Code § 14330, and unfair competition under Business & Professions Code § 17200 and California common law. The legal framework used to analyze these claims is substantially the same as the framework used to evaluate Lanham Act claims under federal law. See *Mallard Creek Industries, Inc. v. Morgan*, 56 Cal.App.4th 426, 434, 65 Cal. Rptr. 2d 461 (1997) (analysis for state law trademark infringement is the same as under federal law); *MCA Records*, 296 F.3d at 902 & n. 2 (holding that defendants' successful assertion of a First Amendment defense entitled them to summary judgment on plaintiff's Lanham Act claim, and also on state law claims for unfair competition); *Denbicare U.S.A., Inc. v. Toys "R" Us, Inc.*, 84 F.3d 1143, 1152 (9th Cir. 1996) ("[S]tate common law claims of unfair competition and actions pursuant to California Business and Professions Code § 17200 are substantially congruent to claims made under the Lanham Act" (internal citations and quotations omitted));<sup>158</sup> *Maljack Prods., Inc. v. Goodtimes Home Video Corp.*, 81 F.3d 881, 886 n. 6 (9th Cir. 1996) [\*\*105] (same); *Duncan v. Stuetzle*, 76 F.3d 1480, 1491 n. 17 (9th Cir. 1996) (same).

158 Section 17200 defines unfair competition as "any unlawful, unfair or fraudulent business act or

practice and unfair, deceptive, untrue or misleading advertising. . . ." CAL. BUS. & PROF. CODE § 17200. The common law tort of unfair competition is narrower, and "is generally thought to be synonymous with the act of 'passing off' one's goods as those of another." *Bank of the West v. Superior Court*, 2 Cal.4th 1254,1263, 10 Cal. Rptr. 2d 538, 833 P.2d 545 (1992).

As the court has found, plaintiff's first cause of action fails because defendants' use of the Play Pen logo is protected under the First Amendment and falls outside the proscriptions of the Lanham Act. Plaintiff's related state law claims fail for the same reason. The court therefore grants defendants' motion for summary judgment on plaintiff's remaining causes of action as well.

### III. CONCLUSION

For the reasons stated, defendants' motion for summary judgment is granted [\*\*106] in its entirety.

DATED: July 28, 2006

MARGARET M. MORROW

UNITED STATES DISTRICT JUDGE

### JUDGMENT FOR DEFENDANTS

On July 24, 2006, the court heard argument on the motion for summary judgment filed by defendants Rock Star Videos, Inc. and Take-Two Interactive Software, Inc. The court having considered the evidence presented by the parties, having reviewed the briefs, and having heard the argument of counsel,

### IT IS ORDERED AND ADJUDGED

1. That plaintiff E.S.S. Entertainment 2000, Inc. dba The Playpen take nothing by way of its complaint against defendants Rock Star Videos, Inc. and Take-Two Interactive Software, Inc.;

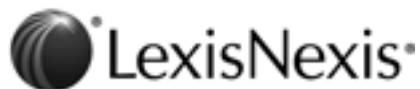
2. That the action be, and it hereby is, dismissed; and

3. That defendants recover their costs of suit herein.

DATED: July 28, 2006

MARGARET M. MORROW

UNITED STATES DISTRICT JUDGE



1 of 1 DOCUMENT

**MARC BRAGG, Plaintiff, v. LINDEN RESEARCH, INC. and PHILIP ROSEDALE, Defendants.**

**CIVIL ACTION NO. 06-4925**

**UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF PENNSYLVANIA**

**487 F. Supp. 2d 593; 2007 U.S. Dist. LEXIS 39516**

**May 30, 2007, Decided**

**May 30, 2007, Filed; May 31, 2007, Entered**

**COUNSEL:** [\*\*1] For MARC BRAGG, Plaintiff: JASON A. ARCHINACO, LEAD ATTORNEY, CHRISTOPHER ERIC BALLOD, WHITE AND WILLIAMS LLP, PHILA, PA.

For LINDEN RESEARCH, INC., A CORPORATION, PHILIP ROSEDALE, AN INDIVIDUAL, Defendants: ANDREW J. SOVEN, LEAD ATTORNEY, REED SMITH, LLP, PHILADELPHIA, PA; SCOTT D. BAKER, LEAD ATTORNEY, REED SMITH LLP, SAN FRANCISCO, CA.

**JUDGES:** Eduardo C. Robreno, J.

**OPINION BY:** Eduardo C. Robreno

## **OPINION**

[\*595] MEMORANDUM

EDUARDO C. ROBRENO, J.

May 30, 2007

This case is about virtual property maintained on a virtual world on the Internet. Plaintiff, March Bragg, Esq., claims an ownership interest in such virtual property. Bragg contends that Defendants, the operators of the virtual world, unlawfully confiscated his virtual property and denied him access to their virtual world.

Ultimately at issue in this case are the novel questions of what rights and obligations grow out of the relationship between the owner and creator of a virtual world and its resident-customers. While the property and the world where it is found are "virtual," the dispute is real.

Presently before the Court are Defendants' Motion to Dismiss for Lack of Personal Jurisdiction (doc. no. 2) and Motion to Compel Arbitration (doc. no. [\*\*2] 3). For the reasons set forth below, the motions will be denied.

## **I. BACKGROUND**

### *A. Second Life*

The defendants in this case, Linden Research Inc. ("Linden") and its Chief Executive Officer, Philip Rosedale, operate a multiplayer role-playing game set in the virtual world <sup>1</sup> known as "Second Life." <sup>2</sup> Participants create avatars <sup>3</sup> to represent themselves, and Second Life is populated by hundreds of thousands of avatars, whose interactions with one another are limited only by the human imagination. <sup>4</sup> According to Plaintiff, many people "are now living large portions of their lives, forming friendships with others, building and acquiring virtual property, forming contracts, substantial business relationships and forming social organizations" in virtual worlds such as Second Life. Compl. P 13. Owning property in and having access to this virtual world is, moreover, apparently important to the plaintiff in this case.

1 The virtual world at issue is an interactive computer simulation which lets its participants see, hear, use, and even modify the simulated objects in the computer-generated environment. See Woodrow Barfield, *Intellectual Property Rights in Virtual Environments: Considering the Rights of Owners, Programmers and Virtual Avatars*, 39 Akron L. Rev. 649, 649 (2006) (defining virtual world).

[\*\*3]

2 Second Life is hosted at <http://secondlife.com>.

3 The term "avatar" derives etymologically from the Sanskrit word for crossing down or descent and was used originally to refer to the earthly incarnation of a Hindu deity. Webster's II New Riverside University Dictionary 141 (1998). Since the advent of computers, however, "avatar" is also used to refer to an Internet user's virtual representation of herself in a computer game, in an Internet chat room, or in other Internet fora. See Wikipedia, Definition of Avatar, available at <http://en.wikipedia.org>.

4 Judge Richard A. Posner has apparently made an appearance in Second Life as a "balding bespectacled cartoon rendering of himself" where he "addressed a crowd of other animated characters on a range of legal issues, including property rights in virtual reality." Alan Sipress, *Where Real Money Meets Virtual Reality, the Jury is Still Out*, Washington Post, Dec. 26, 2006, at A1.

#### B. Recognition of Property Rights

In November 2003, Linden announced that it would recognize participants' full intellectual property protection [\*\*4] for the digital content they created or otherwise owned in Second Life. As a result, Second Life avatars may now buy, own, and sell virtual goods ranging "from cars to homes to slot machines." Compl. P 7. <sup>5</sup> Most significantly [\*\*596] for this case, avatars may purchase "virtual land," make improvements to that land, exclude other avatars from entering onto the land, rent the land, or sell the land to other avatars for a profit. Assertedly, by recognizing virtual property rights, Linden would distinguish itself from other virtual worlds available on the Internet and thus increase participation in Second Life.

5 Although participants purchase virtual

property using the virtual currency of "lindens," lindens themselves are bought and sold for real U.S. dollars. Linden maintains a currency exchange that sets an exchange rate between lindens and U.S. dollars. Third parties, including ebay.com, also provide additional currency exchanges.

Defendant Rosedale personally joined in efforts to publicize Linden's recognition of [\*\*5] rights to virtual property. For example, in 2003, Rosedale stated in a press release made available on Second Life's website that:

Until now, any content created by users for persistent state worlds, such as Everquest(R) or Star Wars Galaxies TM, has essentially become the property of the company developing and hosting the world. . . . We believe our new policy recognizes the fact that persistent world users are making significant contributions to building these worlds and should be able to both own the content they create and share in the value that is created. The preservation of users' property rights is a necessary step toward the emergence of genuinely real online worlds.

Press Release, Linden Lab, *Linden Lab Preserves Real World Intellectual Property Rights of Users of its Second Life Online Services* (Nov. 14, 2003). After this initial announcement, Rosedale continued to personally hype the ownership of virtual property on Second Life. In an interview in 2004, for example, Rosedale stated: "The idea of land ownership and the ease with which you can own land and do something with it . . . is intoxicating. . . . Land ownership feels important and tangible. It's [\*\*6] a real piece of the future." Michael Learmonth, *Virtual Real Estate Boom Draws Real Dollars*, USA Today, June 3, 2004. Rosedale recently gave an extended interview for Inc. magazine, where he appeared on the cover stating, "What you have in Second Life is real and it is yours. It doesn't belong to us. You can make money." Michael Fitzgerald, *How Philip Rosedale Created Second Life*, Inc., Feb. 2007. <sup>6</sup>

6 Plaintiff has inundated the Court with press releases, newspaper articles, and other media containing representations made by Rosedale regarding the ownership of property on Second



Life. Plaintiff states in an affidavit that he reviewed and relied on some of these representations. Bragg Decl. PP 4-10, 65-68. It is of no moment that Plaintiff did not rely upon every single representation that Rosedale ever made regarding ownership of virtual property on Second Life. The immense quantity of such representations is relevant to showing that these are not isolated statements, but rather, part of a national campaign in which defendant Rosedale individually and actively participated.

[\*\*7] Rosedale even created his own avatar and held virtual town hall meetings on Second Life where he made representations about the purchase of virtual land. Bragg Decl. P 68. Bragg "attended" such meetings and relied on the representations that Rosedale made therein. *Id.*

### C. Plaintiffs' Participation in Second Life

In 2005, Plaintiff Marc Bragg, Esq., signed up and paid Linden to participate in Second Life. Bragg claims that he was induced into "investing" in virtual land by representations made by Linden and Rosedale in press releases, interviews, and through the Second Life website. Bragg Decl. PP 4-10, 65-68. Bragg also paid Linden [\*597] real money as "tax" on his land. <sup>7</sup> By April 2006, Bragg had not only purchased numerous parcels of land in his Second Life, he had also digitally crafted "fireworks" that he was able to sell to other avatars for a profit. Bragg also acquired other virtual items from other avatars.

7 Linden taxes virtual land. In fact, according to Bragg, by June 2004, Linden reported that its "real estate tax revenue on land sold to the participants exceeded the amount the company was generating in subscriptions." Compl. P 42.

[\*\*8] The dispute ultimately at issue in this case arose on April 30, 2006, when Bragg acquired a parcel of virtual land named "Taessot" for \$ 300. Linden sent Bragg an email advising him that Taessot had been improperly purchased through an "exploit." Linden took Taessot away. It then froze Bragg's account, effectively confiscating all of the virtual property and currency that he maintained on his account with Second Life.

Bragg brought suit against Linden and Rosedale in the Court of Common Pleas of Chester County,

Pennsylvania, on October 3, 2006. <sup>8</sup> Linden and Rosedale removed the case to this Court (doc. no. 1) and then, within a week, moved to compel arbitration (doc. no. 3).

8 Bragg's complaint contains counts under the Pennsylvania Unfair Trade Practices and Consumer Protection Law, 73 P.S. § 201-1, et seq. (Count I), the California Unfair and Deceptive Practices Act, Cal. Bus. & Prof. Code § 17200 (Count II), California Consumer Legal Remedies Act, Ca. Civ. Code § 1750, et seq. (Count III), fraud (Count IV), the California Civil Code § 1812.600, et seq. (Count V), conversion (Count VI), intentional interference with a contractual relations (Count VII), breach of contract (Count VIII), unjust enrichment (Count IX), and tortious breach of the covenant of good faith and fair dealing (Count X).

### [\*\*9] II. MOTION TO DISMISS FOR LACK OF PERSONAL JURISDICTION

Defendant Philip Rosedale moves to dismiss all claims asserted against him for lack of personal jurisdiction.

#### A. Legal Standards

A federal district court may exercise jurisdiction to the same extent as the state in which it sits; a state, in turn, may exercise jurisdiction over a non-resident defendant pursuant to its so-called "long-arm statute." Because the reach of Pennsylvania's long-arm statute "is coextensive with the limits placed on the states by the federal Constitution," the Court looks to federal constitutional doctrine to determine whether personal jurisdiction exists over Rosedale. *Vetrotex Certainteed Corp. v. Consol. Fiber Glass Products Co.*, 75 F.3d 147, 150 (3d Cir. 1996); 42 Pa. C.S.A. § 5322(b).

Personal jurisdiction can be established in two different ways: specific jurisdiction and general jurisdiction. *See Helicopteros Nacionales de Colombia v. Hall*, 466 U.S. 408, 414-16, 104 S. Ct. 1868, 80 L. Ed. 2d 404 (1984). Specific jurisdiction is established when the basis of the "plaintiff's claim is related to or arises out of the defendant's contacts with the forum. [\*10] " *Pennzoil Products Co. v. Colelli & Assoc., Inc.*, 149 F.3d 197, 201 (3d Cir. 1998) (citations omitted). General jurisdiction, on the other hand, does not require the defendant's contacts with the forum state to be related to

the underlying cause of action, *Helicopteros*, 466 U.S. at 414, but the contacts must have been "continuous and systematic." *Id.* at 416.

Bragg does not contend that general jurisdiction exists over Rosedale. Rather, he maintains that Rosedale's representations support specific personal jurisdiction [\*598] in this case.<sup>9</sup> The Court therefore need only address whether specific jurisdiction exists.

9 In the conclusion of the argument section of his brief, for example, Bragg argues that Rosedale's "representations and inducements properly form the basis of specific jurisdiction against Defendant Rosedale." Pl.'s Resp. at 14.

In deciding whether specific personal jurisdiction is appropriate, a court must first determine whether the defendant has the [\*11] minimum contacts with the forum necessary to have reasonably anticipated being haled into court there. *Pennzoil*, 149 F.3d at 201 (citing *World-Wide Volkswagen Corp. v. Woodson*, 444 U.S. 286, 100 S. Ct. 559, 62 L. Ed. 2d 490 (1980)). Second, once minimum contacts have been established, a court may inquire whether the assertion of personal jurisdiction would comport with traditional conceptions of fair play and substantial justice. *Id.* at 201 (citing *Burger King Corp. v. Rudzewicz*, 471 U.S. 462, 476, 105 S. Ct. 2174, 85 L. Ed. 2d 528 (1985) and *Int'l Shoe Co. v. Washington*, 326 U.S. 310, 320, 66 S. Ct. 154, 90 L. Ed. 95 (1945)). The first step is mandatory, but the second step is discretionary. *Id.*

After a defendant has raised a jurisdictional defense, as Rosedale has in this case, the plaintiff bears the burden of coming forward with enough evidence to establish, with reasonable particularity, sufficient contacts between the defendant and the forum. *Provident Nat'l Bank v. Cal. Fed. Sav. & Loan Ass'n*, 819 F.2d 434, 437 (3d Cir. 1987). "The plaintiff must sustain its burden of proof in establishing jurisdictional facts through sworn affidavits or other competent evidence. . . . [A]t [\*12] no point may a plaintiff rely on the bare pleadings alone in order to withstand a defendant's Rule 12(b)(2) motion to dismiss for lack of in personam jurisdiction." *Patterson by Patterson v. F.B.I.*, 893 F.2d 595, 604 (3d Cir. 1990). "Once the motion is made, plaintiff must respond with actual proofs not mere allegations." *Id.*

## B. Application

In support of the Court's exercising personal jurisdiction over Rosedale, Bragg relies on various representations that Rosedale personally made in the media "to a national audience" regarding ownership of virtual property in Second Life. Bragg maintains that Rosedale made these representations to induce Second Life participants to purchase virtual property and that such representations in fact induced Bragg to do so. Bragg also relies on the fact that he "attended" town hall meetings hosted in Second Life where he listened to Rosedale make statements about the purchase of virtual land.

### 1. Minimum Contacts

The first question the Court must answer, then, is whether Rosedale has minimum contacts with Pennsylvania sufficient to support specific personal jurisdiction. The Court holds that Rosedale's representations--which [\*13] were made as part of a national campaign to induce persons, including Bragg, to visit Second Life and purchase virtual property--constitute sufficient contacts to exercise specific personal jurisdiction over Rosedale.

*Wellness Publishing v. Barefoot* provides useful guidance, albeit in a non-precedential opinion. 128 Fed. App'x 266 (3d Cir. 2005). In that case, the Third Circuit recognized that an advertising campaign of national scope could not, on its own, provide the basis for *general jurisdiction* in any state where advertisements were aired, but that under the appropriate circumstances, such contacts could provide the basis of exercising *specific jurisdiction* over a defendant in a particular state [\*599] where the advertisements were aired. *Id.*<sup>10</sup>

10 The Supreme Court has also held, under different circumstances, that defamatory statements distributed in the national media may support specific personal jurisdiction where those statements are relevant to a plaintiff's claims. In *Calder v. Jones*, a Californian plaintiff sued a group of Floridian defendants for placing a defamatory article about her in a nationally circulated publication. 465 U.S. 783, 788-89, 104 S. Ct. 1482, 79 L. Ed. 2d 804 (1984). The plaintiff claimed that the defendants should be subject to jurisdiction in her home state of California. *Id.* The Supreme Court held that, because the defendant's intentional and allegedly illegal actions were expressly aimed at California and

caused harm there, jurisdiction over the defendants was "proper in California based on the 'effects' of their Florida conduct in California." *Id.* at 789. Here, as in *Calder*, Rosedale's alleged misrepresentations are relevant to Bragg's claims of fraud and deceptive practices, but Bragg has not argued that jurisdiction is proper based on *Calder's* effects-based jurisprudence.

[\*\*14] In *Barefoot*, a group of defendants produced infomercials for calcium supplements and related products that ran nationally, including in New Jersey. *Id.* at 269. The defendants also processed telephone orders for products promoted in the infomercials. *Id.* The District Court dismissed the plaintiff's case for lack of personal jurisdiction in New Jersey. *Id.* at 270. On appeal, however, the Third Circuit reversed, holding that specific personal jurisdiction existed over the defendants that ran the infomercials in New Jersey. *Id.* In doing so, it analogized the defendants' promotional activities to the maintenance of a website. *Id.* (citing *Toys "R" Us, Inc. v. Step Two, S.A.*, 318 F.3d 446, 452 (3d Cir. 2003)).

Under the Third Circuit's jurisdictional analysis of websites, if a defendant website operator intentionally targets the site to the forum state and/or knowingly conducts business with forum state residents via the site, then the "purposeful availment" requirement is satisfied. *Toys "R" Us*, 318 F.3d at 452. In addition, a court may consider the level of interactivity of the website and the defendant's related non-Internet activities [\*\*15] as part of the "purposeful availment" calculus. *Id.* at 453.

The Third Circuit applied this same jurisdictional analysis in *Barefoot* to hold that the defendants who ran the infomercials in New Jersey could be subject to personal jurisdiction in that state. 128 Fed. App'x at 270. First, it reasoned that, as with the mere operation of a website, "an advertising campaign with national scope does not by itself give rise to general jurisdiction in a state where it is broadcast." *Id.* That principle was inapplicable, however, because it involved precedents where the plaintiff's injuries were unrelated to the broad case of the advertisement in the forum state, which were therefore inapplicable to a specific-jurisdiction inquiry. *Id.* (citing *Gehling v. St. George's Sch. of Med., Ltd.*, 773 F.2d 539 (3d Cir. 1985); *Giangola v. Walt Disney World Co.*, 753 F. Supp. 148 (D.N.J. 1990)). Second, and most important for this case, the Third Circuit reasoned:

[T]he advertisement in this case induced viewers to establish direct contact with [the defendant] by calling its toll-free phone number to place orders. This inducement [\*\*16] destroys any semblance of the passive advertising addressed in *Giangola*, 753 F. Supp. at 155-56, which expressly distinguished advertisements in the form of direct mail solicitations. For purposes of jurisdictional analysis, an infomercial broadcast that generates telephone customers is the equivalent of an interactive web-site through which a defendant purposefully directs its commercial [\*600] efforts towards residents of a forum state.

*Id.* at 270 (some internal citations omitted).

*Barefoot's* analysis applies to the facts of this case. First, Bragg has provided evidence that Rosedale helped orchestrate a campaign at the national level to induce persons, including Bragg, to purchase virtual land and property on Second Life. As part of the national campaign, Bragg made representations that were distributed nationally, including in Pennsylvania. Moreover, this case does not involve "injuries unrelated to the broadcast of the advertisement in the forum state," as was the case in *Gehling* or *Giangola*.<sup>11</sup> Cf. *Barefoot*, 128 Fed. App'x at 270. Rather, Rosedale's representations constitute part of the alleged fraudulent and deceptive conduct [\*\*17] at the heart of Bragg's claims in this case.

11 The Third Circuit has consistently held that advertising in national publications does not subject a defendant to *general jurisdiction* in every state. See, e.g., *Gehling*, 773 F.2d 539 at 542; *Giangola*, 753 F. Supp. at 156 ("In an age of modern advertising and national media publications and markets, plaintiffs' argument that such conduct would make a defendant amenable to suit wherever the advertisements were aired would substantially undermine the law of personal jurisdiction."). In *Giangola*, for example, a district court held that plaintiffs' viewing of advertisements displaying Walt Disney World "as a must visit" on plaintiffs' vacation agenda, and which in fact induced plaintiffs to visit Disney World, did not constitute "minimum contacts" sufficient to justify personal jurisdiction in the

plaintiffs' subsequent personal injury action, because the advertisements were not in any way related to the plaintiffs' personal injury action. 753 F. Supp. at 155. Moreover, as the Third Circuit noted in *Barefoot*, the advertisements were passive in nature and did not involve any interactivity with the plaintiffs. *Id.*; *Barefoot*, 128 Fed. App'x at 270.

[\*\*18] Second, like the role of the infomercials in *Barefoot*, Rosedale's personal role was to "bait the hook" for potential customers to make more interactive contact with Linden by visiting Second Life's website. Rosedale's activity was designed to generate additional traffic inside Second Life. He was the hawker sitting outside Second Life's circus tent, singing the marvels of what was contained inside to entice customers to enter. Once inside Second Life, participants could view virtual property, read additional materials about purchasing virtual property, interact with other avatars who owned virtual property, and, ultimately, purchase virtual property themselves. Significantly, participants could even interact with Rosedale's avatar on Second Life during town hall meetings that he held on the topic of virtual property.

Viewed in context, Rosedale's marketing efforts in this case are more "interactive" rather than "passive." *C.f.* *Barefoot*, 128 Fed. App'x at 270 (emphasizing that "interactive" contacts are more significant for jurisdictional purposes than "passive" contacts). Thus, they provide more than just "tangential" support for specific personal jurisdiction. [\*\*19] *See Mesalic v. Fiberfloat Corp.*, 897 F.2d 696, 700 n.10 (3d Cir. 1990) (noting that a defendant's marketing strategy, including advertising in national publications distributed in the forum, provided only "tangential" support for specific personal jurisdiction).<sup>12</sup>

12 Because the Court bases its holding on the interactive nature of the marketing scheme, the its holding does not "mean that there would be nationwide (indeed, worldwide) jurisdiction over anyone and everyone who establishes an Internet website" or made representations posted on a website accessible throughout the world. *Weber v. Jolly Hotels*, 977 F. Supp. 327, 333 (D.N.J. 1997).

The Court's decision is also consistent with the decisions of courts in other jurisdictions which have extended specific jurisdiction over defendants who have made [\*601] representations in national media when the

dispute arose directly from those representations. *See, e.g., Indianapolis Colts, Inc. v. Metro. Baltimore Football Club Ltd. P'ship*, 34 F.3d 410, 412 (7th Cir. 1994) [\*\*20] (holding that national television broadcast into the forum state was sufficient for personal jurisdiction); *Caddy Prods., Inc. v. Greystone Int'l., Inc.*, No. 05-301, 2005 U.S. Dist. LEXIS 34467, \*4-5 (D. Minn. 2005) (holding that the defendant had sufficient contacts to support the exercise of specific personal jurisdiction, which included the defendant's marketing efforts, such as attending a national trade show and advertising in a national trade publication, coupled with defendant's shipment of the product into the forum state); *Hollar v. Philip Morris Inc.*, 43 F. Supp. 2d 794, 802-03 (N.D. Ohio 1998) (holding specific personal jurisdiction existed over tobacco company that made false representations regarding smoking to a national audience, which induced plaintiffs to continue smoking; it is "axiomatic that what is distributed and broadcast nationwide will be seen and heard in all states.") (internal quotation omitted); *Thomas Jackson Publ'g Inc. v. Buckner*, 625 F. Supp. 1044, 1046 (D. Neb. 1985) (holding that performance of songs and interviews on national television supported finding of specific personal jurisdiction over a defendant [\*\*21] whose songs infringed the plaintiff's copyright).

Rosedale relies heavily on cases from other jurisdictions for the proposition that his statements do not subject him to personal jurisdiction in Pennsylvania because none of the statements were targeted directly at Pennsylvania as opposed to the nation at large. *See Dfts.' Reply* at 3. Rosedale's first cited case, however, involves representations specifically targeted at one state, as opposed to a national audience, that merely could be accessed worldwide because they were available on the Internet. *See Young v. New Haven Advocate*, 315 F.3d 256, 263 (4th Cir. 2002) ("[T]he fact that the newspapers' websites could be accessed anywhere, including Virginia, does not by itself demonstrate that the newspapers were intentionally directing their website content to a Virginia audience. Something more than posting and accessibility is needed to indicate that the newspapers purposefully (albeit electronically) directed their activity in a substantial way to the forum state. . ."). Rosedale did not target his representations at any particular state, but rather to the nation at large. The other two cases cited by Rosedale [\*\*22] are also distinguishable, because they involved isolated statements that were not, as is the case here, an integral part of a larger publicity campaign of

national scope. *See Revell v. Lidov*, 317 F.3d 467, 475 (5th Cir. 2002) (finding that the court lacked personal jurisdiction over author of an Internet bulletin board posting "because the post to the bulletin board was presumably directed at the entire world" and was not "directed specifically at Texas"); *Griffis v. Luban*, 646 N.W. 2d 527, 536 (Minn. 2002) ("The mere fact that [the defendant], who posted allegedly defamatory statements about the plaintiff on the Internet, knew that [the plaintiff] resided and worked in Alabama is not sufficient to extend personal jurisdiction over [the defendant] in Alabama, because that knowledge does not demonstrate targeting of Alabama as the focal point of the . . . statements."). *See also Growden v. Ed Bowlin & Assoc., Inc.*, 733 F.2d 1149, 1151-52 & n.4 (5th Cir. 1984) (holding no personal jurisdiction existed based on ads in two national publications for the sale of an airplane, the crash of which was the subject of the litigation).

Accordingly, [\*23] the Court finds that Rosedale has minimum contacts with Pennsylvania [\*602] sufficient to support specific personal jurisdiction.

## 2. Fair Play and Substantial Justice

The Court also finds that the exercise of personal jurisdiction in this case would not offend due process. *See Lehigh Coal*, 56 F. Supp. 2d at 569 (citing *Burger King*, 471 U.S. at 477). The factors to be considered in making this fairness determination are: (1) the burden on the defendant, (2) the forum State's interest in adjudicating the dispute, (3) the plaintiff's interest in obtaining convenient and effective relief, (4) the interstate judicial system's interest in obtaining the most efficient resolution of controversies and (5) the shared interest of the several states in furthering fundamental substantive social policies. *Id.*

Nothing on the record counsels strongly against jurisdiction based on considerations of any undue burden to Rosedale. Rosedale has not claimed that he does not have the financial ability or that he would otherwise be irreparably prejudiced by litigating this case here in Pennsylvania. The Court also notes that Rosedale has able counsel on both coasts, i. [\*24] e., in both his home state of California and here in Pennsylvania. Additionally, Pennsylvania has a substantial interest in protecting its residents from allegedly misleading representations that induce them to purchase virtual property. Pennsylvania also has an interest, more particularly, in vindicating Bragg's individual rights.

Finally, Bragg may obtain convenient and effective relief in Pennsylvania, the state in which he initiated this action.

## C. Fiduciary Shield Doctrine

The Court must also address Rosedale's argument that, because Rosedale made the alleged representations in his corporate capacity as Chief Executive Officer of Linden, he cannot be subject to personal jurisdiction based on those representations.

The applicability of this so called "fiduciary shield" doctrine is in dispute. Although it has not definitively spoken on the issue, the Supreme Court appears to have rejected the proposition that this doctrine is a requirement of federal due process. *See Calder v. Jones*, 465 U.S. 783, 790, 104 S. Ct. 1482, 79 L. Ed. 2d 804 (1984) ("[Defendants'] status as employees does not somehow shield them from jurisdiction. Each defendant's contacts with the forum state must be assessed [\*25] individually."); *Keeton v. Hustler*, 465 U.S. 770, 781 n.13, 104 S. Ct. 1473, 79 L. Ed. 2d 790 (1984) ("We today reject the suggestion that employees who act in their official capacity are somehow shielded from suit in their individual capacity."). Moreover, neither the Pennsylvania Supreme Court nor the Third Circuit has squarely addressed the applicability of the fiduciary shield doctrine. *See, e.g., Irons v. Transcor Am.*, 2002 U.S. Dist. LEXIS 14149, 2002 WL 32348317, at \*5 (E.D. Pa. 2002).

Fortunately, it is not necessary to untangle the confused knot of caselaw surrounding the fiduciary shield's status within the Third Circuit.<sup>13</sup> The Court will, in [\*603] Gordian fashion, cut directly through the knot, because even if the doctrine did apply, the fiduciary shield would not protect Rosedale under these circumstances.

13 Some Third Circuit precedent suggests that, where the alleged contacts involve a corporate agent's personal involvement, the "corporate shield" doctrine is obviated. *See Al-Khazraji v. St. Francis College*, 784 F.2d 505, 518 (3d Cir. 1986) ("An individual, including a director, officer, or agent of a corporation, may be liable for injuries suffered by third parties because of his torts, regardless of whether he acted on his own account or on behalf of the corporation."). On other occasions, however, after finding personal

jurisdiction has existed over a corporation, the Third Circuit has remanded to address the question of whether the individual corporate agents were not subject to personal jurisdiction because their relevant contacts were established in their roles as corporate officers. *See Barefoot*, 128 Fed. App'x at 269.

Numerous recent cases within this district have applied the fiduciary shield doctrine in one form or another. *E.g. Schiller-Pfeiffer, Inc. v. Country Home Prods.*, 2004 U.S. Dist. LEXIS 24180, 2004 WL 2755585 (E.D. Pa. 2004) ("[A] defendant is not individually subject to personal jurisdiction merely based on his actions in a corporate capacity.") (citing *TJS Brokerage & Co. v. Mahoney*, 940 F. Supp. 784, 789 (E.D. Pa. 1996); *D&S Screen Fund II v. Ferrari*, 174 F. Supp. 2d 343, 347 (E.D. Pa. 2001) ("As a general rule, individuals performing acts in their corporate capacity are not subject to the personal jurisdiction of the courts of that state for those acts.")).

[\*\*26] When corporate agents invoke the fiduciary shield as a protection, courts "have held that in order to hold such a defendant subject to personal jurisdiction, it must be shown that [1] the defendant had a major role in the corporate structure, [2] the quality of his contacts with the state were significant, and [3] his participation in the tortious conduct alleged was extensive." *TJS Brokerage*, 940 F. Supp. at 789. First, as to his role in the company, Rosedale acted as the CEO and public face of Linden. Second, as to the quality of Rosedale's contacts, Rosedale made numerous representations that were broadcast through the national media and through the Internet, via town hall meetings, that reached Pennsylvania. These were not isolated statements, but part of a national campaign to distinguish Second Life from other virtual worlds and induce the purchase of virtual property. Third, and finally, Rosedale did not simply direct others to publicize virtual property on Second Life. He personally participated in creating such publicity and its dissemination. Representations made as part of that publicity are at the heart of Bragg's case.<sup>14</sup>

14 Defendants concede that the Court has personal jurisdiction over Linden. However, Bragg does not argue that personal jurisdiction was appropriate over Rosedale based on his

direction of Linden as it made contacts with Pennsylvania. Bragg relies, instead, solely on Linden's individual contacts. Had Plaintiff argued the former, the Court's application of the fiduciary shield doctrine could have been a closer call.

[\*\*27] Even if the fiduciary shield doctrine were expressly recognized by the Third Circuit, Rosedale's representations, though made on the behalf of Linden, would still count as contacts in the analysis of whether the Court may exercise personal jurisdiction over him. Therefore, the Court will exercise personal jurisdiction over Rosedale.

### III. MOTION TO COMPEL ARBITRATION

Defendants have also filed a motion to compel arbitration that seeks to dismiss this action and compel Bragg to submit his claims to arbitration according to the Rules of the International Chamber of Commerce ("ICC") in San Francisco.

#### A. Relevant Facts

Before a person is permitted to participate in Second Life, she must accept the Terms of Service of Second Life (the "TOS") by clicking a button indicating acceptance of the TOS. Bragg concedes that he clicked the "accept" button before accessing Second Life. Compl. P 126. Included in the TOS are a California choice of law provision, an arbitration provision, and forum selection clause. Specifically, located in the fourteenth line of the thirteenth paragraph under the heading "GENERAL PROVISIONS," and following provisions regarding the applicability [\*604] of [\*\*28] export and import laws to Second Life, the following language appears:

Any dispute or claim arising out of or in connection with this Agreement or the performance, breach or termination thereof, shall be finally settled by binding arbitration in San Francisco, California under the Rules of Arbitration of the International Chamber of Commerce by three arbitrators appointed in accordance with said rules. . . . Notwithstanding the foregoing, either party may apply to any court of competent jurisdiction for injunctive relief or enforcement of this arbitration provision without breach of this arbitration provision.

TOS P 13.

## B. Legal Standards

### 1. Federal law applies

The Federal Arbitration Act ("FAA") requires that the Court apply federal substantive law here because the arbitration agreement is connected to a transaction involving interstate commerce. *State Farm Mut. Auto. Ins. Co. v. Coviello*, 233 F.3d 710, 713 n.1 (3d Cir. 2000); *Marciano v. MONY Life Ins. Co.*, 470 F. Supp. 2d 518, 524 (E.D. Pa. 2007) (Robreno, J.); *see also* Wright & Miller, *Federal Practice and Procedure* § 3569, at 173 (1984) ("[I]n a diversity [\*\*29] suit . . . , the substantive rules contained in the [Federal Arbitration] Act, based as it is on the commerce and admiralty powers, are to be applied regardless of state law.").

Whether the arbitration agreement is connected to a transaction involving interstate commerce is a factual determination that must be made by the Court. *State Farm*, 233 F.3d at 713 n.1. Here, Bragg is a Pennsylvania resident. Linden is a Delaware corporation headquartered in California. Rosedale is a California resident. Bragg entered into the TOS and purchased virtual land through the Internet on Second Life as a result of representations made on the national media. The arbitration agreement is clearly connected to interstate commerce, and the Court will apply the federal substantive law that has emerged from interpretation of the FAA.

### 2. The Legal Standard Under the FAA

Under the FAA, on the motion of a party, a court must stay proceedings and order the parties to arbitrate the dispute if the court finds that the parties have agreed in writing to do so. 9 U.S.C. §§ 3, 4, 6. A party seeking to compel arbitration must show (1) [\*\*30] that a valid agreement to arbitrate exists between the parties and (2) that the specific dispute falls within the scope of the agreement. *Trippe Mfg. Co. v. Niles Audio Corp.*, 401 F.3d 529, 532 (3d Cir. 2005); *PaineWebber, Inc. v. Hartmann*, 921 F.2d 507, 511 (3d Cir. 1990).

In determining whether a valid agreement to arbitrate exists between the parties, the Third Circuit has instructed district courts to give the party opposing arbitration "the benefit of all reasonable doubts and inferences that may arise," or, in other words, to apply the

familiar Federal Rule of Civil Procedure 56(c) summary judgment standard. *Par-Knit Mills, Inc. v. Stockbridge Fabrics Co., Ltd.*, 636 F.2d 51, 54 & n.9 (3d Cir. 1980); *see also Berkery v. Cross Country Bank*, 256 F. Supp. 2d 359, 364 n.3 (E.D. Pa. 2003) (Robreno, J.) (applying the summary judgment standard to a motion to compel arbitration). While there is a presumption that a particular dispute is within the *scope* of an arbitration agreement, *Volt Info. Scis., Inc. v. Bd. of Trustees*, 489 U.S. 468, 475, 109 S. Ct. 1248, 103 L. Ed. 2d 488 (1989), there is [\*\*31] no such "presumption" or "policy" that favors the *existence* of a valid agreement to arbitrate. *Marciano*, 470 F. Supp. 2d at 525-26.

### [\*605] C. Application

#### 1. Unconscionability of the Arbitration Agreement

Bragg resists enforcement of the TOS's arbitration provision on the basis that it is "both procedurally and substantively unconscionable and is itself evidence of defendants' scheme to deprive Plaintiff (and others) of both their money and their day in court." Pl.'s Resp. At 16. <sup>15</sup>

<sup>15</sup> This challenge must be determined by the Court, not an arbitrator. *Bellevue Drug Co. v. Advance PCS*, 333 F. Supp. 2d 318 (E.D. Pa. 2004) (Robreno, J.). Bragg does not challenge enforceability by claiming that a provision of the arbitration agreement will deny him a statutory right, a question of interpretation of the arbitration agreement which an arbitrator is "well situated to answer." *Id.* (citations omitted). Rather, Bragg claims that the arbitration agreement itself would effectively deny him access to an arbitrator, because the costs would be prohibitively expensive, a question that is more appropriately reserved for the Court to answer. *Id.*

[\*\*32] Section 2 of the FAA provides that written arbitration agreements "shall be valid, irrevocable, and enforceable, save upon such grounds as exist at law or in equity for the revocation of any contract." 9 U.S.C. § 2. Thus, "generally applicable contract defenses, such as fraud, duress, or unconscionability, may be applied to invalidate arbitration agreements without contravening § 2." *Doctor's Assocs. v. Casarotto*, 517 U.S. 681, 687, 116 S. Ct. 1652, 134 L. Ed. 2d 902 (1996) (citations omitted). When determining whether such defenses might apply to any purported agreement to arbitrate the dispute in

question, "courts generally . . . should apply ordinary state-law principles that govern the formation of contracts." *First Options of Chicago, Inc. v. Kaplan*, 514 U.S. 938, 944, 115 S. Ct. 1920, 131 L. Ed. 2d 985 (1995). Thus, the Court will apply California state law to determine whether the arbitration provision is unconscionable.<sup>16</sup>

16 Both parties agree that California law should govern the question of whether the arbitration provision is unconscionable.

[\*\*33] Under California law, unconscionability has both procedural and substantive components. *Davis v. O'Melveny & Myers*, F.3d , 485 F.3d 1066, 2007 U.S. App. LEXIS 11265, 2007 WL 1394530, at \*4 (9th Cir. May 14, 2007); *Comb v. Paypal, Inc.*, 218 F. Supp. 2d 1165, 1172 (N.D. Cal. 2002). The procedural component can be satisfied by showing (1) oppression through the existence of unequal bargaining positions or (2) surprise through hidden terms common in the context of adhesion contracts. *Comb*, 218 F. Supp. 2d at 1172. The substantive component can be satisfied by showing overly harsh or one-sided results that "shock the conscience." *Id.* The two elements operate on a sliding scale such that the more significant one is, the less significant the other need be. *Id.* at 743; see *Armendariz v. Foundation Health Psychcare Servs., Inc.*, 24 Cal. 4th 83, 99 Cal. Rptr. 2d 745, 6 P.3d 669, 690 (Cal. 2000) ("[T]he more substantively oppressive the contract term, the less evidence of procedural unconscionability is required to come to the conclusion that the term is unenforceable, and vice versa."). However, a claim of unconscionability cannot be determined merely by examining the face [\*\*34] of the contract; there must be an inquiry into the circumstances under which the contract was executed, and the contract's purpose, and effect. *Comb*, 218 F. Supp. 2d at 1172.

#### (a) Procedural Unconscionability

A contract or clause is procedurally unconscionable if it is a contract of adhesion. *Comb*, 218 F. Supp. 2d at 1172; *Flores v. Transamerica HomeFirst, Inc.*, 93 Cal. App. 4th 846, 113 Cal. Rptr. 2d 376, 381-82 (Ct. App. 2001). A contract of adhesion, in [\*606] turn, is a "standardized contract, which, imposed and drafted by the party of superior bargaining strength, relegates to the subscribing party only the opportunity to adhere to the contract or reject it." *Comb*, 218 F. Supp. 2d at 1172; *Armendariz*, 6 P.3d at 690. Under California law, "the

critical factor in procedural unconscionability analysis is the manner in which the contract or the disputed clause was presented and negotiated." *Nagrampa v. MailCoups, Inc.*, 469 F.3d 1257, 1282 (9th Cir. 2006). "When the weaker party is presented the clause and told to 'take it or leave it' without the opportunity for meaningful negotiation, oppression, and therefore [\*\*35] procedural unconscionability, are present." *Id.* (internal quotation and citation omitted); see also *Martinez v. Master Prot. Corp.*, 118 Cal. App. 4th 107, 12 Cal. Rptr.3d 663, 669 (Ct. App. 2004) ("An arbitration agreement that is an essential part of a 'take it or leave it' employment condition, without more, is procedurally unconscionable.") (citations omitted); *O'Melveny & Myers*, F.3d , 2007 U.S. App. LEXIS 11265, 2007 WL 1394530 at \*6 (holding arbitration agreement presented on a take-it-or-leave-it basis was procedurally unconscionable, notwithstanding the fact that employee was provided three months to walk away from employment before agreement became effective).

The TOS are a contract of adhesion. Linden presents the TOS on a take-it-or-leave-it basis. A potential participant can either click "assent" to the TOS, and then gain entrance to Second Life's virtual world, or refuse assent and be denied access. Linden also clearly has superior bargaining strength over Bragg. Although Bragg is an experienced attorney, who believes he is expert enough to comment on numerous industry standards and the "rights" or participants in virtual worlds, see Pl.'s Resp., Ex. A PP 59-64, he [\*\*36] was never presented with an opportunity to use his experience and lawyering skills to negotiate terms different from the TOS that Linden offered.

Moreover, there was no "reasonably available market alternatives [to defeat] a claim of adhesiveness." Cf. *Dean Witter Reynolds, Inc. v. Superior Court*, 211 Cal. App. 3d 758, 259 Cal. Rptr. 789, 795 (Ct. App. 1989) (finding no procedural unconscionability because there were other financial institutions that offered competing IRA's which lacked the challenged provision). Although it is not the only virtual world on the Internet, Second Life was the first and only virtual world to specifically grant its participants property rights in virtual land.

The procedural element of unconscionability also "focuses on . . . surprise." *Gutierrez v. Autowest, Inc.*, 114 Cal. App. 4th 77, 7 Cal. Rptr. 3d 267, 275 (Ct. App. 2003) (citations omitted). In determining whether



surprise exists, California courts focus not on the plaintiff's subjective reading of the contract, but rather, more objectively, on "the extent to which the supposedly agreed-upon terms of the bargain are hidden in the prolix printed form drafted by the party seeking to enforce the disputed [\*\*37] terms." *Id.* In *Gutierrez*, the court found such surprise where an arbitration clause was "particularly inconspicuous, printed in eight-point typeface on the opposite side of the signature page of the lease." *Id.*

Here, although the TOS are ubiquitous throughout Second Life,<sup>17</sup> Linden buried the TOS's arbitration provision in a lengthy paragraph under the benign heading "GENERAL PROVISIONS." *See* TOS P 13. *Compare Net Global Mktg. v. Dialtone, Inc.*, No. 04-56685, 217 Fed. Appx. 598, 2007 U.S. App. LEXIS 674 at \*7 (9th Cir. Jan. 9, 2007) (finding procedural unconscionability [\*607] where "[t]here was no 'clear heading' in the Terms of Service that could refute a claim of surprise; to the contrary, the arbitration clause is listed in the midst of a long section without line breaks under the unhelpful heading of 'Miscellaneous'") and *Higgins v. Superior Court*, 140 Cal. App. 4th 1238, 45 Cal. Rptr. 3d 293, 297 (Ct. App. 2006) (holding arbitration agreement unconscionable where "[t]here is nothing in the Agreement that brings the reader's attention to the arbitration provision") with *Boghos v. Certain Underwriters at Lloyd's of London*, 36 Cal. 4th 495, 30 Cal. Rptr. 3d 787, 115 P.3d 68, 70 (Cal. 2005) (finding [\*\*38] arbitration clause was enforceable where it was in bolded font and contained the heading "BINDING ARBITRATION"). Linden also failed to make available the costs and rules of arbitration in the ICC by either setting them forth in the TOS or by providing a hyper-link to another page or website where they are available. Bragg Decl. P 20.

<sup>17</sup> For example, both the "Auctions" and the "Auctions FAQ" webpages in Second Life contain hyperlinks to the TOS. *See* Bragg Br., Ex. 2 at 9, 15.

*Comb* is most instructive. In that case, the plaintiffs challenged an arbitration provision that was part of an agreement to which they had assented, in circumstances similar to this case, by clicking their assent on an online application page. 218 F. Supp. 2d at 1169. The defendant, PayPal, was a large company with millions of individual online customers. *Id.* at 1165. The plaintiffs, with one

exception, were all individual customers of PayPal. *Id.* Given the small amount of the average transaction [\*\*39] with PayPal, the fact that most PayPal customers were private individuals, and that there was a "dispute as to whether PayPal's competitors offer their services without requiring customers to enter into arbitration agreements," the court concluded that the user agreement at issue "satisfie[d] the criteria for procedural unconscionability under California law." *Id.* at 1172-73. Here, as in *Comb*, procedural unconscionability is satisfied.

#### (b) Substantive Unconscionability

Even if an agreement is procedurally unconscionable, "it may nonetheless be enforceable if the substantive terms are reasonable." *Id.* at 1173 (citing *Craig v. Brown & Root, Inc.*, 84 Cal. App. 4th 416, 100 Cal. Rptr. 2d 818 (Ct. App. 2000) (finding contract of adhesion to arbitrate disputes enforceable)). Substantive unconscionability focuses on the one-sidedness of the contract terms. *Armendariz*, 6 P.3d at 690; *Flores*, 113 Cal. Rptr. 2d at 381-82. Here, a number of the TOS's elements lead the Court to conclude that Bragg has demonstrated that the TOS are substantively unconscionable.

#### (i) Mutuality

Under California law, substantive unconscionability [\*\*40] has been found where an arbitration provision forces the weaker party to arbitrate claims but permits a choice of forums for the stronger party. *See, e.g., Ticknor v. Choice Hotels Int'l, Inc.*, 265 F.3d 931, 940-41 (9th Cir. 2001); *Mercuro v. Superior Court*, 96 Cal. App. 4th 167, 116 Cal. Rptr. 2d 671, 675 (Ct. App. 2002). In other words, the arbitration remedy must contain a "modicum of bilaterality." *Armendariz*, 6 P.3d at 692. This principle has been extended to arbitration provisions that allow the stronger party a range of remedies before arbitrating a dispute, such as self-help, while relegating to the weaker party the sole remedy of arbitration.<sup>18</sup>

<sup>18</sup> The Court notes that the Third Circuit has found that "parties to an arbitration agreement need not equally bind each other with respect to an arbitration agreement if they have provided each other with consideration beyond the promise to arbitrate." *Harris v. Green Tree Fin. Corp.*, 183 F.3d 173, 180-81 (3d Cir. 1999). In *Green Tree*, however, the Third Circuit was applying Pennsylvania law, not California law. *Id.* In any

event, Pennsylvania courts have criticized this aspect of *Green Tree's* holding. *E.g. Lytle v. Citifinancial Servs.*, 2002 PA Super 327, 810 A.2d 643, 665 (Pa. Super. Ct. 2002) (holding that, under Pennsylvania law, the reservation by a company to itself of access to the courts, to the exclusion of the consumer, created a presumption of unconscionability, "which in the absence of 'business realities' that compel inclusion of such a provision in an arbitration provision, render[ed] the arbitration provision unconscionable and unenforceable").

[\*608] [\*41] In *Comb*, for example, the court found a lack of mutuality where the user agreement allowed PayPal "at its sole discretion" to restrict accounts, withhold funds, undertake its own investigation of a customer's financial records, close accounts, and procure ownership of all funds in dispute unless and until the customer is "later determined to be entitled to the funds in dispute." 218 F. Supp. 2d at 1173-74. Also significant was the fact that the user agreement was "subject to change by PayPal without prior notice (unless prior notice is required by law), by posting of the revised Agreement on the PayPal website." *Id.*

Here, the TOS contain many of the same elements that made the PayPal user agreement substantively unconscionable for lack of mutuality. The TOS proclaim that "Linden has the right at any time for any reason or no reason to suspend or terminate your Account, terminate this Agreement, and/or refuse any and all current or future use of the Service without notice or liability to you." TOS P 7.1. Whether or not a customer has breached the Agreement is "determined in Linden's sole discretion." *Id.* Linden also reserves the right to return no money at [\*42] all based on mere "suspicions of fraud" or other violations of law. *Id.* Finally, the TOS state that "Linden may amend this Agreement . . . at any time in its sole discretion by posting the amended Agreement [on its website]." TOS P 1.2.

In effect, the TOS provide Linden with a variety of one-sided remedies to resolve disputes, while forcing its customers to arbitrate any disputes with Linden. This is precisely what occurred here. When a dispute arose, Linden exercised its option to use self-help by freezing Bragg's account, retaining funds that Linden alone determined were subject to dispute, and then telling Bragg that he could resolve the dispute by initiating a

costly arbitration process. The TOS expressly authorized Linden to engage in such unilateral conduct. As in *Comb*, "[f]or all practical purposes, a customer may resolve disputes only after [Linden] has had control of the disputed funds for an indefinite period of time," and may only resolve those disputes by initiating arbitration. 218 F. Supp. 2d at 1175.

Linden's right to modify the arbitration clause is also significant. "The effect of [Linden's] unilateral right to modify the arbitration [\*43] clause is that it could . . . craft precisely the sort of asymmetrical arbitration agreement that is prohibited under California law as unconscionable. *Net Global Mktg.*, 217 Fed. Appx. 598, 2007 U.S. App. LEXIS 674, at \*9. This lack of mutuality supports a finding of substantive unconscionability.

#### (ii) *Costs of Arbitration and Fee-Sharing*

Bragg claims that the cost of an individual arbitration under the TOS is likely to exceed \$ 13,540, with an estimated initiation cost of at least \$ 10,000. Pl.'s Reply at 5-6. He has also submitted a Declaration of Personal Financial Information stating that such arbitration would be cost-prohibitive for him (doc. no. 41). Linden disputes Bragg's calculations, estimating that the costs associated with arbitration [\*609] would total \$ 7,500, with Bragg advancing \$ 3,750 at the outset of arbitration. *See Dfts.' Reply* at 11.

At oral argument, the parties were unable to resolve this dispute, even after referencing numerous provisions and charts contained within the ICC Rules. *See Tran. of 2/5/07 Hrg.* at 65-74. The Court's own calculations, however, indicate that the costs of arbitration, excluding arbitration, would total \$ 17,250. With a recovery [\*44] of \$ 75,000, <sup>19</sup> the ICC's administrative expenses would be \$ 2,625 (3.5% of \$ 75,000). *See ICC Rules* at 28. In addition, arbitrator's fees could be set between 2.0% (\$ 1,500) and 11.0% (\$ 8,250) of the amount at issue per arbitrator. *Id.* If the ICC set the arbitrator's fees at the mid-point of this range, the arbitrator's fees would be \$ 4,875 per arbitrator. *Id.* Here, however, the TOS requires that three arbitrators be used to resolve a dispute. TOS P 13. Thus, the Court estimates the costs of arbitration with the ICC to be \$ 17,250 (\$ 2,625 + (3 x \$ 4,875)), although they could reach as high as \$ 27,375 (\$ 2,625 + (3 x \$ 8,250)). <sup>20</sup>

19 The Court's calculations are based on its finding that \$ 75,000 is at issue, the minimum

necessary to satisfy the requirements of diversity jurisdiction in this case. After a hearing on Bragg's motion to remand this case back to state court, the Court found that this jurisdictional threshold had been met (doc. no. 14).

20 At oral argument, Bragg asserted repeatedly that the schedule of arbitrator's fees in the ICC Rules represents the fee "per arbitrator," which would have to be tripled in this case as the TOS provides for three arbitrators. *See* Tran. of 2/5/07 Hrg. at pp. 68, 74. Defendants never refuted this point. *See id.*

[\*\*45] These costs might not, on their own, support a finding of substantive unconscionability. However, the ICC Rules also provide that the costs and fees must be shared among the parties, and an estimate of those costs and fees must be advanced at the initiation of arbitration. *See* ICC Rules of Arbitration, Ex. D to Dfts.' Reply at 28-30. California law has often been applied to declare arbitration fee-sharing schemes unenforceable. *See Ting v. AT&T*, 319 F.3d 1126, 1151 (9th Cir. 2003). Such schemes are unconscionable where they "impose[] on some consumers costs greater than those a complainant would bear if he or she would file the same complaint in court." *Id.* In *Ting*, for example, the Ninth Circuit held that a scheme requiring AT&T customers to split arbitration costs with AT&T rendered an arbitration provision unconscionable. *Id.* *See also Circuit City Stores v. Adams*, 279 F.3d 889, 894 (9th Cir. 2002) ("This fee allocation scheme alone would render an arbitration agreement unenforceable."); *Armendariz*, 6 P.3d at 687 ("[T]he arbitration process cannot generally require the employee to bear any *type* of expenses that [\*\*46] the employee would not be required to bear if he or she were free to bring the action in court.") (emphasis in original); *Ferguson v. Countrywide Credit Indus.*, 298 F.3d 778, 785 (9th Cir. 2002) ("[A] fee allocation scheme which requires the employee to split the arbitrator's fees with the employer would *alone* render an arbitration agreement substantively unconscionable.") (emphasis added).

Here, even taking Defendants characterization of the fees to be accurate, the total estimate of costs and fees would be \$ 7,500, which would result in Bragg having to advance \$ 3,750 at the outset of arbitration. *See* Dfts.' Reply at 11. The court's own estimates place the amount that Bragg would likely have to advance at \$ 8,625, but they could reach as high as \$ 13,687.50. Any of these figures are significantly greater than the costs that Bragg

bears by [\*610] filing his action in a state or federal court. Accordingly, the arbitration costs and fee-splitting scheme together also support a finding of unconscionability.

### (iii) Venue

The TOS also require that any arbitration take place in San Francisco, California. TOS P 13. In *Comb*, the Court found that a similar forum [\*\*47] selection clause supported a finding of substantive unconscionability, because the place in which arbitration was to occur was unreasonable, taking into account "the respective circumstances of the parties." 218 F. Supp. 2d at 1177. As in *Comb*, the record in this case shows that Linden serves millions of customers across the United States and that the average transaction through or with Second Life involves a relatively small amount. *See id.* In such circumstances, California law dictates that it is not "reasonable for individual consumers from throughout the country to travel to one locale to arbitrate claims involving such minimal sums." *Id.* Indeed, "[l]imiting venue to [Linden's] backyard appears to be yet one more means by which the arbitration clause serves to shield [Linden] from liability instead of providing a neutral forum in which to arbitrate disputes." *Id.*

### (iv) Confidentiality Provision

Arbitration before the ICC, pursuant to the TOS, must be kept confidential pursuant to the ICC rules. *See* ICC Rules at 33. Applying California law to an arbitration provision, the Ninth Circuit held that such confidentiality supports a finding [\*\*48] that an arbitration clause was substantively unconscionable. *Ting*, 319 F.3d at 1152. The Ninth Circuit reasoned that if the company succeeds in imposing a gag order on arbitration proceedings, it places itself in a far superior legal posture by ensuring that none of its potential opponents have access to precedent while, at the same time, the company accumulates a wealth of knowledge on how to negotiate the terms of its own unilaterally crafted contract. *Id.* The unavailability of arbitral decisions could also prevent potential plaintiffs from obtaining the information needed to build a case of intentional misconduct against a company. *See id.*

This does not mean that confidentiality provisions in an arbitration scheme or agreement are, in every instance, per se unconscionable under California law. *See Mercuro v. Superior Court*, 96 Cal. App. 4th 167, 116 Cal. Rptr.2d

671, 679 (Ct. App.2002) ("While [the California] Supreme Court has taken notice of the 'repeat player effect,' the court has never declared this factor renders the arbitration agreement unconscionable per se.") (citations omitted). Here, however, taken together with other provisions of the TOS, the [\*\*49] confidentiality provision gives rise for concern of the conscionability of the arbitration clause. *See also O'Melveny & Myers*, F.3d , 2007 U.S. App. LEXIS 11265, 2007 WL 1394530, at \*11 ("The concern is not with confidentiality itself but, rather, with the scope of the language of the [arbitration agreement.]").

Thus, the confidentiality of the arbitration scheme that Linden imposed also supports a finding that the arbitration clause is unconscionable.

#### (v) *Legitimate Business Realities*

Under California law, a contract may provide a "margin of safety" that provides the party with superior bargaining strength protection for which it has a legitimate commercial need. "However, unless the 'business realities' that create the special need for such an advantage are explained in the contract itself, . . . it must be factually established." *Stirlen v. Supercuts, Inc.*, 51 Cal. App. 4th 1519, 60 Cal. Rptr. 2d 138, 148 (Ct. App. 1997). When a contract [\*\*611] is alleged to be unconscionable, "the parties shall be afforded a reasonable opportunity to present evidence as to its commercial setting, purpose, and effect to aid the court in making the determination." Cal. Civ. Code § 1670.5 [\*\*50] . The statutory scheme reflects "legislative recognition that a claim of unconscionability often cannot be determined merely by examining the face of the contract, but will require inquiry into its setting, purpose, and effect." *Stirlen*, 60 Cal. Rptr. 2d at 148 (citations and internal quotations omitted).

Here, neither in its briefing nor at oral argument did Linden even attempt to offer evidence that "business realities" justify the one-sidedness of the dispute resolution scheme that the TOS constructs in Linden's favor.

#### (c) *Conclusion*

When a dispute arises in Second Life, Linden is not obligated to initiate arbitration. Rather, the TOS expressly allow Linden, at its "sole discretion" and based on mere "suspicion," to unilaterally freeze a participant's

account, refuse access to the virtual and real currency contained within that account, and then confiscate the participant's virtual property and real estate. A participant wishing to resolve any dispute, on the other hand, after having forfeited its interest in Second Life, must then initiate arbitration in Linden's place of business. To initiate arbitration involves advancing fees to pay for no less than three [\*\*51] arbitrators at a cost far greater than would be involved in litigating in the state or federal court system. Moreover, under these circumstances, the confidentiality of the proceedings helps ensure that arbitration itself is fought on an uneven field by ensuring that, through the accumulation of experience, Linden becomes an expert in litigating the terms of the TOS, while plaintiffs remain novices without the benefit of learning from past precedent.

Taken together, the lack of mutuality, the costs of arbitration, the forum selection clause, and the confidentiality provision that Linden unilaterally imposes through the TOS demonstrate that the arbitration clause is not designed to provide Second Life participants an effective means of resolving disputes with Linden. Rather, it is a one-sided means which tilts unfairly, in almost all situations, in Linden's favor. As in *Comb*, through the use of an arbitration clause, Linden "appears to be attempting to insulate itself contractually from any meaningful challenge to its alleged practices." 218 F. Supp. 2d at 1176.

The Court notes that the concerns with procedural unconscionability are somewhat mitigated by Bragg's being [\*\*52] an experienced attorney. However, "because the unilateral modification clause renders the arbitration provision severely one-sided in the substantive dimension, even moderate procedural unconscionability renders the arbitration agreement unenforceable." *Net Global Mktg.*, 217 Fed. Appx. 598, 2007 U.S. App. LEXIS 674, at \*9 (internal citations omitted).

Finding that the arbitration clause is procedurally and substantively unconscionable, the Court will refuse to enforce it.<sup>21</sup>

21 Having determined that the arbitration provision is unenforceable as an unconscionable agreement, the Court need not determine whether the specific dispute in this case falls within the scope of that agreement. The Court notes, however, that the arbitration clause clearly exempts from its scope claims for "injunctive

relief." *See* TOS P 13. At the hearing on the motion to compel arbitration, the Court asked whether Bragg wanted the Court to decide the motion to compel arbitration, or allow Plaintiff file an amended complaint seeking only injunctive relief. *See* Tran. of 2/5/07 Hrg. at pp. 89-90, 108. He elected to file an amended complaint. *Id.* Subsequently, however, he filed supplemental briefing in support of his original complaint, and after Defendants objected, filed a Proposed Amended Complaint "[a]s promised." Pl.'s Suppl. Brf. in Opp. to Mot. to Compel at 12 (doc. no. 43). During a telephone conference on May 8, 2007, however, Bragg finally clarified that he intended to stand on his original complaint.

[\*612] [\*\*53] 2. "*Bluelining*" the Arbitration Agreement

Alternatively, Linden has offered to ameliorate the one-sidedness of the TOS's arbitration provision by suggesting that Linden could waive the requirements for three arbitrators, post the initial fees of arbitration, and agree to arbitrate in Philadelphia instead of San Francisco. *See* Dfts.' Sur-Reply Brf. at 2-3 (doc. no. 2).

California law allows a court to "blue-line" an arbitration agreement to remove an element that renders it substantively unconscionable. *See* Cal. Civ. Code § 1670.5(a) ("If the court as a matter of law finds the contract or any clause of the contract to have been unconscionable at the time it was made the court may refuse to enforce the contract, or it may enforce the remainder of the contract without the unconscionable clause, or it may so limit the application of any unconscionable clause as to avoid any unconscionable result."). However, a court is not obligated to blue-line when an "arbitration provision is so permeated by substantive unconscionability that it cannot be cured by severance or any other action short of rewriting the contract." *Nagrampa v. MailCoups, Inc.*, 469 F.3d 1257, 1293 (9th Cir. 2006). [\*\*54] Where an arbitration provision has "multiple defects that indicate a systematic effort to impose arbitration on [the plaintiff], not simply as an alternative to litigation, but as an inferior forum that works to [the defendant's] advantage," and there simply is "no single provision [the court] can strike or restrict in order to remove the unconscionable taint from the agreement," the court can simply refuse to enforce the arbitration provision. *Id.* (citing *Armendariz*, 6 P.3d at

696).

The arbitration clause before the Court is simply not one where a single term may be stricken to render the agreement conscionable. "The unilateral modification 'pervade[s]' and 'taint[s]' with illegality' the entire agreement to arbitrate, [and] severance of terms within the arbitration clause would not cure the problem. *Net Global Mktg.*, 217 Fed. Appx. 598, 2007 U.S. App. LEXIS 674, at \*9 (quoting *Circuit City*, 279 F.3d at 895 (citations omitted)); *see also Armendariz*, 6 P.3d at 697 ("[M]ultiple defects indicate a systematic effort to impose arbitration on an employee not simply as an alternative to litigation, but as an inferior forum [\*\*55] that works to the employer's advantage. . . . Because a court is unable to cure this unconscionability through severance or restriction, and is not permitted to cure it through reformation and augmentation, it must void the entire agreement."). Davis, 2007 U.S. App. LEXIS 11265, 2007 WL 1394530, at \*15 (refusing to rewrite arbitration agreement that contained four substantively unconscionable or void terms because "[t]hese provisions cannot be stricken or excised without gutting the agreement"). Blue-lining in this case will require the redrafting of the agreement.

The Court declines to rewrite the agreement, at Linden's request, to save an unconscionable arbitration provision which Linden itself drafted and now seeks to enforce. Rather than provide a reasonable alternative for dispute resolution, this agreement compels a one-sided resolution of disputes between the parties.

#### IV. CONCLUSION

For the reasons set forth above, the Court will deny Rosedale's motion to dismiss for lack of jurisdiction. The Court will also deny Defendants' motion to compel [\*613] arbitration. An appropriate order follows.

#### ORDER

**AND NOW**, this 30th day of May, 2007, it is hereby **ORDERED** [\*\*56] that defendant Philip Rosedale's Motion to Dismiss for Lack of Jurisdiction (doc. no. 2) and defendant Linden Research, Inc.'s Motion to Compel Arbitration (doc. no. 3) are **DENIED**.

It is **FURTHER ORDERED** that Plaintiff's Motion for Leave to File Supplemental Briefs in Opposition to Defendants Motions to Dismiss and to Compel

Arbitration to Address Issues Raised by the Court at  
Argument on February 5, 2007 (doc. no. 34) is **DENIED**  
**as moot.**

**AND IT IS SO ORDERED.**

**S/ Eduardo C. Robreno, J.**