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Pinups and Pinball: The Sexualized Female Image in Pinball Artwork

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The Rochester Institute of Technology

College of Liberal Arts

Pinups and Pinball: The Sexualized Female Image in Pinball Artwork

A Thesis Submitted
in Partial Fulfillment of the
Bachelor of Science Degree
in Museum Studies

History Department

by

Melissa A. Fanton

May 2016

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Abstract

Since the commercialization of pinball in the 1930s, the pinball industry has used art and imagery to promote the pinball machine as a product and to generate and cultivate its audience. Much of that imagery has relied on sexualizing and stereotyping women to appeal to a presumed male player. In this thesis, I explore how the depiction of women on pinball machines has evolved from the 1930s to 1970s, with a specific focus on artwork from 1970 to 1979. This is followed by an examination of how second wave feminism, popular culture, and the introduction of film licensing may (or may not) have influenced artwork design and production. I will then present the findings of a quantitative analysis of stereotypes in pinball artwork from 1970-1979 and consider areas of further research. I examined sources from The Strong National Museum of Play (Rochester, NY), in particular the International Center for the History of Electronic Games (ICHEG) Collection and the Brian Sutton-Smith Library and Archives of Play. Combined, my analysis documents how the depiction of women has or has not changed in pinball artwork over time, and what it might mean today for a niche industry to depend on the visual sexualization of women for its commercial success.

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Introduction

Pinball, like the jigsaw craze of the early twentieth century, was so popular at one time that it found a prominent place in the American landscape of popular culture. Despite the ethical, legal, and financial struggles of the industry over the twentieth century, pinball remains part of that cultural landscape. One of the key characteristics of American pinball machines is the artwork applied to different parts of the machine, particularly the ones visible during gameplay. Over the years this artwork has included themes such as circus shows, various sports, Westerns, sea and space exploration, fantasy and science fiction, and a myriad of licensed cultural properties from movies and television. While the popularity of specific themes like the Western would come and go, artists' use of iconography and stereotypes over the years has contributed to pinball's identity. In order to sell machines and attract a paying, playing audience, many of these images included the sexualized female body. Like the advertising industry, where many of pinball artists originated, the tendency to rely on sexualized women's bodies to attract an audience has endured for decades, so much so that overtly sexist imagery appears on machines made as recently as 2015.¹

This thesis documents the prevalence of the sexualized female image in pinball artwork during the heyday of the second wave feminist movement, specifically, from 1970 to 1979. The purpose of this task was to discover if the habitual use of the sexualized female body that began to appear on pinball machines in the 1930s changed during this time period, when feminist ideas became an inescapable part of national dialogue. First I provide a brief history of pinball and the development of pinball artwork, followed by an analysis of pinball texts written from the late

¹ See Figures 1 and 2, *Whoa Nellie!* backglass and playfield. According to the Internet Pinball Database at ipdb.org, *Whoa Nellie! Big Juicy Melons* was made by Whizbang Pinball of Lake Villa, IL in 2010 and released in 2011. Stern manufactured it again in 2015, and it is still available for sale as of April, 2016.

1960s to the 2000s. I explore the origination of these images in the advertising industry and examine what pinball enthusiasts refer to as the “classic”² era of pinball artwork through the lens of feminist visual studies. The thesis includes a customized quantitative survey that identifies visual themes and elements used to develop the female image in pinball artwork from the 1970s. Few texts critically and systematically analyze the visual content of pinball artwork in this way. My goal is not to measure the influence of these images on society, but to document their usage during the second wave feminist movement.

Historical Overview of the Development of Pinball Art

Pinball is at the cross-section of game and toy; sport and amusement. The game of pinball evolved from the table game of bagatelle, a popular pastime in the eighteenth century. Bagatelle, which was created as early as the late fifteenth century and named in the late eighteenth century³, brought popular lawn games indoors⁴ through the manipulation of a ball on a wooden table with pockets or holes, similar in size and gameplay to billiards.⁵ The size and slant of the table varied over time; the slant of the table made the force of gravity a key component of the game and the smaller table was more portable. Variations on the bagatelle game, including children’s marble games that utilized the same principals, made their way into private and public spaces.⁶ Many of the earliest bagatelle games of the twentieth century have little to no decoration except for the

² Michael Shalhoub, *The Pinball Compendium: 1970-1981* (Atglen, PA: Schiffer Publishing, 2004), 7.

³ Rodney P. Carlisle, ed., *Encyclopedia of Play in Today's Society*, Vol. 1 (Thousand Oaks: SAGE Publications, 2009), xxxv, Google Books version, accessed April 13, 2016, https://books.google.com/books?id=jLqXM3U_pzEC&lpg=PP1&pg=PR4#v=onepage&q=bagatelle&f=false.

⁴ Rick Sherin, “A Mere Bagatelle: From Marbles to Pinball and Beyond,” *Play Stuff Blog*, The Strong National Museum of Play, January 13, 2014, accessed March 6, 2016, <http://www.museumofplay.org/blog/play-stuff/2014/01/a-mere-bagatelle-from-marbles-to-pinball-and-beyond/>.

⁵ Billiards or “pool” was developed in much the same way, and there are significant visual and mechanical similarities between the games of billiards and bagatelle.

⁶ Sherin, “A Mere Bagatelle.”

pins and holes placed on the field, even for games as late as the 1930s. On games such as *Whiffle* and *Contact*,⁷ the textured wood surface is fully visible. Games were sometimes painted solid colors and included a few decorative motifs.⁸ Playfield designers also painted or stenciled artwork directly upon the wooden surface, as in the case of “Ballyhoo” from 1932.⁹ Based on the bagatelle and pin games from The Strong’s collection, it appears that children’s marble games were more highly decorated and colorful than their contemporary bagatelle counterparts, presumably to appeal to their young audience.¹⁰ Some contained images of circus clowns, animals, sports, and other ubiquitous themes that, by today’s standards, might be considered gender neutral.

There is no unanimous agreement about what combination of elements are required to be considered a pinball machine, as opposed to the game of bagatelle, but many sources, including The Strong National Museum of Play, cite the introduction of the mechanical, “spring-loaded ball shooter (or ‘plunger’)”¹¹ developed by Montague Redgrave in 1871¹² as being instrumental to the development of pinball.¹³ The name of the game was inspired by use of nails or pins driven into the surface of the table (or “playfield”). After the ball is launched onto the playfield by pulling and releasing the plunger, it enters the play area and interacts with metal pins and other obstacles before landing in a scoring pocket or hole, or in a hole at the bottom of the playfield (the “drain”). Additional components that separated modern pinball games from the

⁷ See figures 3, 4, and 5, *Whiffle*, *Contact Senior*, and *Midget Hi-Ball*.

⁸ See figures 6 and 7, *Bingo* and *Baffle Ball*.

⁹ See figure 8, *Ballyhoo*.

¹⁰ See figures 9, 10, and 11 for children’s bagatelle and marble games.

¹¹ The Strong National Museum of Play, *Pinball in America*, online exhibit (Google Cultural Institute, 2016), accessed May 8, 2016, <https://www.google.com/culturalinstitute/u/0/exhibit/pinball-in-america/oAKShPEYG8fuKg>.

¹² Montague Redgrave, Improvement in Bagatelles, US Patent 115,357, issued May 30, 1871.

¹³ Melodie Sweeney, “The Bagatelle Wizard Instead of the Pinball Wizard,” Blog, Washington, D.C.: The National Museum of American History, October 31, 2012, accessed March 6, 2016, <http://americanhistory.si.edu/blog/2012/10/the-bagatelle-wizard-instead-of-the-pinball-wizard.html>.

nineteenth century bagatelle included a wooden enclosure with glass pane top, a coin mechanism, and an automatic ball return mechanism.¹⁴ Many of these elements came together with regularity in individual machines in the 1930s, although the popularity of bagatelle was already well established prior to World War I.

The Pinball industry developed rapidly in America during the 1930s, catalyzed by American ingenuity during the Great Depression that followed the 1929 stock market crash.¹⁵ The proliferation of the coin slot¹⁶ and a glass cover to securely enclose the playfield monetized the game. Soon after, game operators placed coin-operated pinball games in drug stores, penny arcades, boardwalks, and bar rooms. Many of the spaces where pinball could be found had predominantly male clientele, where men engaged in activities women seldom participated in, particularly in public, including drinking, gambling, peep shows, and, of course, playing coin-operated games. Few individuals could afford these modernized machines in their homes, and so pinball remained primarily in the public sphere, where an individual could play a game of three to five balls for as little as one cent.

Today's figural and iconographic pinball artwork can be traced back to the 1930s, when major pinball manufacturers contracted artists at advertising companies to produce artwork for their games. It was not until Gottlieb's *Baffle Ball* released in 1931, which sold over 50,000 units in the span of a year, that a single pinball game garnered wide commercial success.¹⁷ With a market for the game established, manufacturers vied to make their games more appealing than that of competitors. Three factors set pinball machines apart from one another: the name, the

¹⁴ The Strong National Museum of Play, *Pinball in America*, online exhibit (Google Cultural Institute, 2016), accessed May 8, 2016, <https://www.google.com/culturalinstitute/u/0/exhibit/pinball-in-america/oAKShPEYG8fuKg>.

¹⁵ Richard M. Bueschel, *Pinball 1 Illustrated Historical Guide to Pinball Machines: Volume 1* (Wheat Ridge, CO: Hoflin Publishing, 1988), 13.

¹⁶ Bueschel, *Pinball 1*, 14-17.

¹⁷ Harry McKeown, *Pinball Portfolio* (Secaucus, NJ: Chartwell Books, 1976), 14.

gameplay, and the artwork. In order to attract people passing by and persuade a person to invest their pennies and nickels, the pinball machine needed visual appeal.

The earliest examples of artwork on commercial pinball machines were painted directly onto the wooden playfield.¹⁸ The first tables lacked the vertical rectangular structure, or backbox, common in contemporary pinball machines. In the early 1930s, when electricity was introduced to the purely mechanical pinball machine, vertical rectangular structures began to appear at the far end of the machine from the player. With these new electromechanical machines, machine designers introduced new features. Beginning in 1947 flippers entered the playfield to allow players more control over the game; a pair of flippers at the bottom of the playfield did not become standardized until after 1948.¹⁹ When backlit scoring was introduced, it required a translucent window and expanded backbox to accommodate it. The front-facing surface of the backbox contained a pane of glass with decoration on it that allowed light to pass through to illuminate scores, ball numbers, and “tilt” or “game over” status. This glass, known as a backglass, became a crucial advertising tool or “billboard”²⁰ for the machine, and expanded the area upon which the artists could apply their increasingly elaborate artwork. According to Keith Temple, “as the industry developed... the artwork became ever more sophisticated, moving from simple geometric designs to themes.”²¹ This development is consistent with the early modernist and art deco²² influences within the advertising industry in the 1930s and 1940s.²³ As sleek, reserved art deco designs of the 1930s gave way to figures and narrative scenes, the content of

¹⁸ The playfield is the surface upon which the ball interacts with other elements, such as holes and pins, that affected the path of the ball and the amount of points accumulated.

¹⁹ Pacific Pinball Museum, “Flippers,” Pacific Pinball Museum.org, n.d. accessed April 16, 2016, <http://pacificpinball.org/articles/flippers>.

²⁰ Angeline Ragnoni, “Pinball Artists: The Art and Cultural History of Pinball Machines” (Master’s thesis, Kent State University, 2001), 5.

²¹ Keith Temple, *Pinball Art* (London: H.C. Blossom, 1991), 18.

²² Brian C. Bill, “Pinball Illustration: The Artists and Their Careers” (Master’s thesis, Syracuse University, 2001), 4.

²³ Temple, *Pinball Art*, 18.

the artwork became a key component in what set one pinball machine apart from the next. Many published texts about pinball focus on technological invention of these electro-mechanical marvels as benchmarks of progress and what differentiated one machine from the next. There is an implied consensus in pinball literature that good game design is what makes or breaks a game. However, while a machine could boast the latest playfield and scoring features, it needed to *attract* a player first. Pinball artists capitalized on popular themes, such as baseball, horse racing, and modern modes of transportation, including war machines. Women began to appear in pinball artwork on the beach and in entertainment venues, like the concert hall, as beauty contestants and entertainers. At many of these locations, the women were dressed in revealing clothing of some sort, whether it be a bikini, and evening gown with a high slit, or a showgirl costume. These colorful, thematic machines drew players from their placement in drug stores, penny arcades, taverns, and along fairground midways.

Pinball companies popped up all over the country in these early years, but the companies that would become the largest and most prolific by the mid-twentieth century—Genco, Chicago Coin, Bally, Gottlieb, and Williams—were headquartered in Chicago, IL. Chicago had a long history of gambling, and even before the invention of flippers, some pinball manufacturers experimented with payout devices, and in some cases, gave players as little as one ball per game. Pinball manufacturers pushed the limits of their audiences' patience with the "one-ball automatic pay-out" machine.²⁴ This model may have attracted organized crime to pinball operation, and this connection was not restricted to Chicago.²⁵ Although most pinball machines were not manufactured for gambling purposes, associations with similar devices produced by some of

²⁴ Harry McKeown, *Pinball Portfolio*, (Secaucus, NJ: Chartwell Books, Inc., 1976), 67.

²⁵ Dwight S. Strong, "New England: The Refined Yankee in Organized Crime," *The Annals of the American Academy of Political and Social Science* 347, (SAGE Publications, May 1963): 43-44, accessed April 16, 2016, <http://www.jstor.org/stable/1036551>.

those same manufacturers created a stigma on the popular game.²⁶ In actuality, pinball and its predecessor bagatelle have been associated with gambling as long as players have been placing bets.²⁷ Eventually organized criminal activity *did* take place, however, and its consequences reverberated throughout the whole industry. The reputation of the game reached a low, when in 1941, “responding to concerns about organized crime, gambling, and youth leisure time, New York City [banned] pinball.”²⁸ Bans followed in Chicago and Los Angeles. Despite the bans, the sale of pinball was not illegal outside of those cities and so the business remained profitable despite them.

The war years were a slow period for pinball machine production, when pinball facilities were repurposed for the war effort. They remained afloat through the production of artwork conversion kits, which re-themed existing machines.²⁹ This new patriotic artwork, which included the ships and airplanes used in the war, was placed on existing machines to replace older artwork and make the machine appear as new. During the war, pinball manufacturers placed ads encouraging the purchase of war bonds,³⁰ and cleverly placed machines at bases where soldiers congregated, so the game was never out of the public consciousness for long.

After the war, the demand for pinball machines grew. By the mid-1940s, Gottlieb and Bally were well-established, and Williams was just coming on the scene. Post-war prosperity

²⁶ John Grochowski, *The Slot Machine Answer Book: How They Work, How They've Changed, and How to Overcome the House Advantage*, 2 ed., (Los Angeles: Bonus Books, 2005), 65, Google Books version, accessed April 23, 2016, https://books.google.com/books/about/Slot_Machine_Answer_Book.html?id=Cv1qd7q9-QAC.

²⁷ Pinball, as the descendent of bagatelle, has been associated with gambling for hundreds of years. See Richard M. Bueschel, *Pinball 1 Illustrated Historical Guide to Pinball Machines: Volume 1* (Wheat Ridge, CO: Hoflin Publishing, 1988), 17.

²⁸ The Strong National Museum of Play, *Pinball in America*, online exhibit (Google Cultural Institute, 2016), accessed March 8, 2016, <https://www.google.com/culturalinstitute/u/0/exhibit/pinball-in-america/oAKShPEYG8fuKg>.

²⁹ Russ Jensen, “Pingame Conversions,” *Pinball Collectors Resource*, originally published in *Coin Slot* (Aug/Sep 1983), accessed April 16, 2016, http://www.pinballcollectorsresource.com/russ_files/russconv.html.

³⁰ See figure 12, Bally War Bonds and Stamps advertisement on page 78 of *Billboard*, January 22, 1944, 78, Google Books, accessed May 7, 2016, <https://books.google.com/books?id=gQwEAAAAMBAJ&lpg=PP1&pg=PP1#v=onepage&q&f=false>.

placed a new emphasis on leisure time, and the pinball industry thrived. Depictions of women largely replaced depictions of war machines on the backglass and playfield, and there were many of them, sometimes without a male figure to be seen. This trend is unsurprising when considering the prolonged wartime separation of male soldiers with women “back home.” Women appeared on machines doing a wide variety of activities, and they even appeared in cohorts, enjoying the company of one another alongside *and* independent from men in the scene. They continued to appear as beauty contestants and entertainers, but also as regular citizens, or “the girl next door.”

From the 1960s to the 1970s, veteran artists, designers, and engineers retired, and new artists began working in the industry.³¹ They brought with them new styles and fresh ideas and illustration that reflected popular culture and contemporary art in a changing world. The 1960s continued the trend of women appearing as full participants in the activities depicted in pinball artwork.³² Although themes about playing cards, billiards, and other pastimes were familiar standbys, artists stayed current by incorporating current fads and fashion into their artwork. Some notable sexualized clothing of the 1960s were the bikini, miniskirt, and mini dress,³³ all popular in pinball artwork through the 1970s. During the 60s, even the “androgynous” shift dress and bob hairstyle were pervasive enough to make it into pinball artwork. The androgynous fashions of the 1960s tapered off³⁴ in the early 1970s in favor of long hair, tight-fitting tops, and exposed skin. It wasn’t uncommon for women to be dressed in ways that revealed their cleavage, waist, and upper thighs in the same outfit.

³¹ Keith Temple, *Pinball Art* (London: H.C. Blossom, 1991), 22.

³² See figure 13, *Super Score*, 1967.

³³ See figure 14, *Fun Land*, 1968.

³⁴ See figure 15, *Flip a Card*, 1970.

The 1970s were dynamic years for the pinball industry and the main time frame of this study. Pinball and its spaces were adopted by the youth counterculture that developed during the 1960s, and continued to draw youth through the 1970s. Sociologists who studied pinball at this time found it to be “a form of play, and a synecdoche of everyday experience,” or a microcosm of the human experience, during a time when it did not “hold society’s respect or approval.”³⁵ Pinball artists were aware of the popularity of Rock and Roll and psychedelia with 1960s and 1970s youth counterculture, and accordingly incorporated these themes into pinball artwork to appeal to and attract young players.³⁶ The adoption of counterculture imagery in pinball artwork challenged the squeaky-clean images of youth culture from the 1950s and 60s, giving pinball artwork a rebellious edge.

Older, established pinball fans continued to drop their quarters into the machines, and their nostalgia for the games of their youth was strong. There was still reason to believe the pinup-style imagery of women decorating pinball machines, popular in the 1940s and 1950s, would continue to appeal to an established audience. Artists found ways to heighten sex appeal of female figures with exposed skin, risqué clothing, and increasingly evocative poses. Keith Temple observes, “the age of the circus clown and comic character backglass had been firmly laid to rest... The macho image had arrived.”³⁷ This macho image of the dominant and muscular male figure was largely defined by its counterpart, the hypersexualized female figure—a woman with long, “feminine” hair and plentiful bosom who was often more interested in the males in the scene than the activity taking place.

³⁵ Peter K. Manning and Bonnie Campbell, “Pinball as Game, Fad, and Synecdoche,” *Youth & Society* 4, no. 3, (SAGE Publications, March 1973): 333, accessed April 16, 2016, <http://yas.sagepub.com.ezproxy.rit.edu/content/4/3/333>.

³⁶ See figure 16, *Super Star*.

³⁷ Keith Temple, *Pinball Art* (London: H.C. Blossom, 1991), 29.

Behind the backglass art and below the playfield, pinball machine technology was also changing. New technology, such as the microprocessor, changed the way manufacturers produced games and streamlined the play experience.³⁸ The Solid State machine introduced alphanumeric number displays that replaced the old scoring reels, which allowed greater flexibility in design of the backglass.

Despite the popularity of these artistic and technological marvels, pinball machines remained illegal in some cities into the 1970s. Within those cities, to play pinball was to thumb one's nose at authority, and many pinball players did so. Even in Chicago "the vital heart of the pinball industry," pinball was still illegal.³⁹ With such a reputation, in some areas, machines could only find a home underground, in barrooms and taverns, or other "relatively private sex-linked locations."⁴⁰ Pinball was as popular as ever, but bans forced pinball to shrink from public view, and in doing so, became sheltered from feminist scrutiny. This sheltering in bars and back rooms is perhaps what allowed, and even encouraged artists to create and proliferate sexualized depictions of women without consequence. Finally, in 1976, "New York City [ended] its more than four decade ban on pinball after a pro-pinball lobby," led by pinball enthusiast and journalist Roger Sharpe "[helped] demonstrate that pinball is a game of skill rather than purely chance."⁴¹ This inspired other cities to lift their bans, including Chicago, IL.

The publicity and the renewed public fervor that followed the legalization of pinball led to a needed boost in mainstream popularity. Pinball and arcade operators took advantage of the boost to pinball's reputation and built upon it further, by including pinball in arcades and malls.

³⁸ The Strong National Museum of Play, *Pinball in America*, online exhibit (Google Cultural Institute, 2016), accessed May 8, 2016, <https://www.google.com/culturalinstitute/u/0/exhibit/pinball-in-america/oAKShPEYG8fuKg>.

³⁹ Harry McKeown, *Pinball Portfolio* (Secaucus, NJ: Chartwell Books, Inc., 1976), 65.

⁴⁰ Peter K. Manning and Bonnie Campbell, "Pinball as Game, Fad, and Synecdoche," *Youth & Society* 4, no. 3, (SAGE Publications, March 1973): 346, accessed April 16, 2016, <http://yas.sagepub.com.ezproxy.rit.edu/content/4/3/333>.

⁴¹ The Strong National Museum of Play, *Pinball in America*.

The arcade game craze had led to a proliferation of arcades and family-friendly establishments... The recession that forced Americans to conserve gasoline, and led to an increase in shipping costs, was a serious concern for the pinball industry. But for the public, this also meant finding fun activities closer to home, and one of those activities was playing arcade and pinball games. Pinballs reintroduction into places of family entertainment, even beside its coin-operated competition (arcade games), also encouraged mainstream acceptance.

The mid to late 1970s also saw the introduction of lucrative movie, television, and music licensing deals, starting with the film *Tommy* in 1975. The movie about a pinball prodigy facing incredible odds put pinball "...back in the [mainstream] public imagination," after which Bally produced *Wizard*, "the first pinball game based on a popular film license."⁴² While licensing gave pinball a much needed boost in public interest, players' attentions were being diverted elsewhere, to the blossoming video game industry. What followed over the next three decades was a decline in sales, a shrinking of the industry, and fewer machines in fewer places.

Despite this decline, pinball machines are still part of the physical landscape in public and private spaces. In the public they serve much the same function as they always have, to challenge and delight the player. The traditional placement of these machines in the physical landscape has shaped the artwork as much as the artwork has shaped their placement. For instance, many games have themes about billiards that take place in barrooms or saloons, because that is where many of these games were placed, and was presumably what the audience was interested in. In the home, they act as amusement devices, tournament games, and status symbols for private collectors. Some exist in gendered spaces, such as the "man cave," for entertaining adult friends, and some exist within family spaces, like the family game room, for

⁴² The Strong National Museum of Play, *Pinball in America*, online exhibit (Google Cultural Institute, 2016), accessed May 8, 2016, <https://www.google.com/culturalinstitute/u/0/exhibit/pinball-in-america/oAKShPEYG8fuKg>.

everyone to enjoy. The artwork on the machine also informs where the machine can be placed, based on the appropriate venue for artwork. Bally's 1978 *Playboy* pinball machine, for example, is more likely to be placed in a tavern than a laundromat due to the overtly sexualized images of scantily clad women on its backglass and playfield.⁴³

While the scope of this thesis does not include a survey of public opinion, there is evidence of the acceptance or rejection of these images through the practice of aftermarket modifications and custom built games. At the same time, the current leading pinball manufacturer Stern Pinball also offers alternative backglasses from time to time, such as an alternate backglass for Stern's *WrestleMania* (2015)⁴⁴ that depicts female wrestlers known as "Divas."⁴⁵ By offering this alternative backglass, Stern is simultaneously inclusive while it exhibits the practice of othering by creating the backglass as a secondary specialty item rather than a core component of the machine. The women are never participating in the sport during gameplay, they are merely standing, posed, in front of a wrestling ring. Unlike mainstream male wrestling, mainstream female wrestling has a beauty contest built into the spectacle, which the backglass emphasizes. Most customization of this kind is limited to the backglass, but Stern's *AC/DC LUCI Edition* has fully redesigned cabinet artwork featuring a purple-skinned woman playing a guitar.⁴⁶ In this case and many others, alternate versions and after-market modifications serve to add and intensify sexual imagery to machines. This study focuses on industry-created, and therefor industry-sanctioned, artwork from the most influential pinball manufacturers of the 1970s.

⁴³ See figure 17, *Playboy*.

⁴⁴ Stern Pinball, "WWE Pro," Stern Pinball, 2016, accessed April 16, 2016, <http://www.sternpinball.com/games/wwe/pro>.

⁴⁵ As I write this thesis, the reality television show "Total Divas" that premiered in 2013 follows the stories of these female wrestlers, and is currently in season 5.

⁴⁶ Stern Pinball, "AC/DC LUCI," 2016, accessed April 28, 2016, <http://www.sternpinball.com/games/ac-dc-luci/ac-dc-luci>.

Visual Communication & Women and Gender Studies

My first step in documenting the prevalence of sexualized imagery in the pinball industry was to examine the history of pinball artwork in America. First, who were the artists, and where did they come from? From the 1930s to the 1970s, leading companies in the industry hired illustrators from advertising agencies, and artists with advertising backgrounds, to produce their imagery. Thus, these artists introduced the visual vocabulary and visual grammar of advertising to the pinball industry that continued to shape the medium throughout its history. Pinball artists were “...commercial artists looking for illustration work.”⁴⁷ Flower and Kurtz point out that “...if there was a similarity in the artwork of all three manufacturers, it was because the same company, Advertising Posters of Chicago (under the direction of George Molentin) handled the artistic duties for all these manufacturers...” at one time or another.⁴⁸ Each artist played a part in establishing the visual language and grammar of pinball, even the artists that did not come from Advertising agencies. Although artists were hired on contract, this did not necessarily preclude them from working for different companies, particularly between contractual obligations. Artists’ use of the stereotypes and coopting of popular culture that led to success in the advertising industry were employed across the pinball industry, which led to similar imagery at each company.

When it comes to interpreting the content of pinball artwork, most texts are historical, collector-influenced, and celebratory, while few attempt a critical examination of the artwork’s content, particularly the sexist iconography it is widely known for. Of those few interpretive pinball texts, Keith Temple’s, *Pinball Art*, can be problematic from an inclusionary, feminist

⁴⁷ Brian C. Bill, “Pinball Illustration: The Artists and Their Careers” (Master’s thesis, Syracuse University, 2001), abstract.

⁴⁸ Gary Flower and Bill Kurtz, *Pinball: The Lure of the Silver Ball* (Edison, NJ: Chartwell Books, 1997), 57.

perspective. *Pinball Art* is, as described on its inside cover, a “comprehensive reference work” with “social and political commentary” of the artwork. As one of few works that examine pinball artwork, it has its flaws. Temple’s use of language like “nubile”⁴⁹ to describe images of women, colors his analysis with decidedly sexist undertones. Temple also describes the object itself as actively and purposefully engaging the audience by personifying how a pinball machine “tried to charm the predominantly male audience with bathing beauties.”⁵⁰ Regardless of this sexist slant, his book emphasizes the work that the object does through its artwork. While colored paint and ink lay dormant upon the pinball machine’s surfaces, the *content* of the artwork has agency through its display.⁵¹ Each element of the artwork is an active agent in reaffirming, challenging, and influencing public perception through its visual reception and interpretation. The artwork upon the machine and the machine itself, combined with the social space in which it is perceived, creates a unique experience that speaks to its audience. Even artwork made in the past and seen as less relevant today can include highly potent messages about both the past and the present. Depictions of other human beings speak to our identity—how we perceive ourselves and others. For these reasons, pinball artwork continues to exert its influence and remains an important subject of analysis in the history of pinball, games, and popular culture.

Pinball studies alone do not provide a set of tools with which to critically examine pinball artwork. In order to address the sexualized female image in pinball artwork, I have turned to other fields of research, primarily in women and gender studies and visual culture. Unlike the bulk of pinball research, which either disregards the artwork altogether or renders it as inert

⁴⁹ Keith Temple, *Pinball Art* (London: H.C. Blossom, 1991), 12.

⁵⁰ Keith Temple, *Pinball Art*, 32.

⁵¹ Barbara Kirshenblatt-Gimblett, “Introduction” in *Destination Culture: Tourism, Museums, and Heritage* (Berkeley, CA: University of California Press, 1998): 1- 16.

historical artifacts, studies in mass communications, advertising, media literacy⁵², and women and gender recognize the work these images have done in the past and still do. Existing pinball literature does not critically examine the visual messages communicated by the content of the artwork on pinball machines, so I have chosen to look in other areas of research. Mass communications, advertising, and media literacy studies offer many scholarly books and articles that specifically address women and gender. Similarly, many women and gender studies texts cover the subject of advertising and representation.

Historians, sociologists, and art critics have developed useful frameworks for examining visual content throughout the mid to late twentieth century. The most useful tools for the purposes of this study are found in the field of women and gender studies. Many of these were created during the 1970s, when the social and political climate of the second wave feminist movement demanded better tools with which to combat issues concerning the representation, type of representation, or lack of representation of women in the media. The chronology of my study begins in the year 1970, and while it may be a neat, round number, it is not an arbitrary choice. The year 1970 marked the 50th anniversary of the ratification of the 19th Amendment, ensuring women's right to vote. In the year 1970 alone, "over 150,000 women marched in the Women's Strike for Equality nationwide to mark the occasion."⁵³ Feminist Kate Millet also released a landmark text, *Sexual Politics*. At a sit-in protest event at *Ladies Home Journal* that same year, one of the protesters' demands insisted that the rampant sexism in magazine

⁵² "Media Literacy: A Definition and More," Center for Media Literacy, n.d., accessed March 14, 2016, <http://www.medialiteracy.com/media-literacy-definition-and-more>.

⁵³ Susan G. Hauser, "The Women's Movement in the '70s, Today: 'You've Come a Long Way,' But . . .," *Workforce* (MediaTec Publishing, Inc., 2012), accessed April 17, 2016, <http://www.workforce.com/articles/the-women-s-movement-in-the-70s-today-you-ve-come-a-long-way-but>.

advertisements must be curtailed.⁵⁴ This event in particular addressed the use of iconography and sexual political messages in popular culture. While their messages generally applied to the photographic images of magazine advertising, whose realism made them a particularly potent cultural influence, the artwork of the comic book and the pinball machine were areas where sexist imagery was not bound by reality, but remained influential nonetheless.

As for the origination of the sexualized female image in advertising, Carolyn Kitch's book, *The Girl on the Magazine Cover*, draws parallels between the stereotypes used in early magazine advertising during the first wave feminist movement, and similar stereotypes that persisted during the second wave feminist movement. Kitch examines how "...mass media have pictured American women throughout the twentieth century—setting into place a visual vocabulary of womanhood that now seems natural."⁵⁵ The many artists who were contracted out of advertising companies to create pinball artwork brought the visual vocabulary and visual grammar of advertising to the pinball industry. While a visual vocabulary is made up of individual components used to construct meaning within visual language, "...visual grammars are conventions, or accepted ways of thinking about visual images and composition, which have been sanctioned by general custom and repeated use."⁵⁶ According to Kitch, "...media imagery works to create, transform, and perpetuate certain cultural ideals rather than others."⁵⁷ Hazel G. Warlaumont adds that the visual grammar of advertising can act as a "purveyor of ideology" by

⁵⁴ Jean E. Hunter, "A Daring New Concept: *The Ladies' Home Journal* and Modern Feminism," *National Women's Studies Association Journal* 2, no. 4 (John Hopkins University Press, 1990): 583, accessed April 17, 2016, <http://www.jstor.org/stable/4316072>.

⁵⁵ Carolyn Kitch, *The Girl on the Magazine Cover: The Origins of Visual Stereotypes in American Mass Media* (Chapel Hill, NC: The University of North Carolina Press, 2001), 3.

⁵⁶ Hazel G. Warlaumont, "Visual Grammars of Gender: The Gaze and Psychoanalytic Theory in Advertisements," *Journal of Communication Inquiry* 17, no. 1 (SAGE Publications, Winter 1993): 27, accessed April 15, 2016, <http://jci.sagepub.com/content/17/1/25>.

⁵⁷ Carolyn Kitch, *The Girl on the Magazine Cover: The Origins of Visual Stereotypes in American Mass Media* (Chapel Hill, NC: The University of North Carolina Press, 2001), 3.

conveying and reinforcing gender stereotypes and "...producing female images that express male fantasies and reflect a male point of view."⁵⁸

Feminist researchers in the 1970s were interested in examining how media imagery influenced society. Three studies from the 1970s were critical in examining how images were interpreted at the time they were created. These works not only shaped my research, but they were instrumental in creating my survey tool. Laura Mulvey's seminal work, "Visual Pleasure and Narrative Cinema," originally published in 1975, is essential to the understanding of the male gaze from a feminist perspective, despite the static nature of pinball images.⁵⁹ Mulvey argued that the lens through which the audience member viewed cinema, as well as the lens through which the filmmaker recorded film, propagate a vision of the world through a male viewpoint, and this shapes how the viewer, who is also presumed to be male, reads the information. This phenomenon extends beyond cinema into other forms of visual media, including television, photography, and illustration. Novelist and art critic John Berger's 1972 book, *Ways of Seeing*, analyzes artworks from centuries past alongside modern advertisements, drawing parallels between them. This timeline stretched the use of potent sexualized female imagery far before the advent of the magazine industry. In *Gender Advertisements* (1976), sociologist Erving Goffman conducted surveys and analyzed advertisements from prominent magazine publications in such a way as to uncover the subtle but significant ways gender signifiers inform the way advertisements are interpreted.⁶⁰

Goffman and others have emphasized that the iterative nature of mass produced and mass consumed images—images selected through a selective and intentional process—does not reflect

⁵⁸ Warlaumont, "Visual Grammars of Gender," 26.

⁵⁹ Laura Mulvey, "Visual Pleasure and Narrative Cinema," *Film Theory and Criticism: Introductory Readings*, Leo Braudy and Marshall Cohen, eds. (New York: Oxford University Press, 1999): 833-844.

⁶⁰ Erving Goffman, *Gender Advertisements* (New York: Harper & Row, 1976).

reality, but reflects an intentional shaping of public perception. In this way these images shape reality through a struggle for meaning-making between advertiser and audience. That is why Brian C. Bill's claim in *Pinball Illustration: The Artists and Their Careers* that pinball artists were journalists of the twentieth century is misleading.⁶¹ Journalists have an ethical responsibility to convey an unbiased truth, whereas pinball artists have no such obligations. Pinball art, like other artistic works created by humankind for centuries, is a product of the culture in which it is created, but also of the artist's interpretation of that culture, as well as their own personal desires (ones that can be expressed in an acceptable way as required by their employers).

During the 1970s, pinball artists were creating gendered and sexualized imagery when the foundations of commonly held beliefs about gender were being challenged. According to Susan Douglas:

the backlash that accompanied the women's liberation movement suggests that testosterone poisoning reached epidemic proportions in the early 1970s. Backlash didn't need time to build up; backlash didn't wait for feminism to settle in...The war between feminism and antifeminism in the early 1970s raged throughout the media in an explicit, no-holds-barred action. For at the same time that the news media were bringing feminism—including radical feminism—into people's living rooms...the entertainment media were trying to figure out how to capitalize on feminism while containing it... This ideological warfare about women's proper place was the prevailing subtext of American popular culture in the 1970s⁶²

If this backlash occurred throughout other forms of popular media, was it also manifested in pinball artwork? How did the use of sexual iconography change in pinball art as attitudes towards pinball changed, and as attitudes about women changed?

⁶¹ Brian C. Bill, "Pinball Illustration: The Artists and Their Careers" (Master's thesis, Syracuse University, 2001), abstract.

⁶² Susan Douglas, *Where the Girls Are: Growing Up Female with the Mass Media* (New York, NY: Three Rivers Press, 1994), 193.

Quantitative Survey of Pinball Artwork

This thesis examines the artwork on machines, not as a critique of their artistic merit or qualities, but as a way to probe beneath the veil of frivolity and camp in their initial reception to examine the conceptualization of the female image and other messages embedded in pinball artwork from the 1970s. To accomplish this, I compiled a list of machines from the era, identified common themes within the content of pinball artwork, and systematically documented the usage and reiteration of those themes.

The parameters for inclusion in the study were as follows: the machine must have a production date on or between the years of 1970 to 1979; the machine must have a minimum production quantity of 500; and the machine must come from one of three major American manufacturers during the 1970s: Bally Manufacturing Corporation, D. Gottlieb & Company, or Williams Electronics Incorporated.⁶³ I excluded artwork from machines made exclusively for export. Each entry represents a unique set⁶⁴ of artworks produced on a pinball machine within these parameters. “Artwork” includes any visuals applied to the backglass or playfield.⁶⁵

The survey includes three types of information for each entry. Basic identifying information is listed first, including the year and month of production, production quantity, title

⁶³ For my study I chose to include three well-established manufacturers of pinball machines that were active throughout the duration of the chosen time frame. I chose not to include other manufacturers, such as Chicago Coin, Stern (which acquired Chicago Coin), and Atari, who were active for only a portion of the total timespan. This choice was not intended to discredit the work or impact of the manufacturers excluded from the survey, but was meant to make a fair comparison between companies of similar size, structure, and longevity.

⁶⁴ “Set” refers to the combination of backglass and playfield into a single survey entry. All entries have unique backglass artwork, but some playfields were used in multiple games. Cabinet stencils are excluded from this analysis for three reasons. First, the use and reuse of generic stencils were not uncommon. Second, the application of the stencil was much different than the production of backglass and playfield artwork. Third, because the person designing and applying the stencil is seldom, if ever, identified, no connection can be made to the primary artist.

⁶⁵ Although the project would have been easier had I only included backglass artwork, it would not be appropriate to exclude playfield artwork, since the glass and playfield work together to create the total experience. Images of women also began appearing on pinball machines that predated the use of the backglass altogether.

of the machine, manufacturer, and artist or artists. This information is followed by ten categories of analysis with binary descriptors, 1 or 0, to indicate the presence or absence of the content element described in that category. A brief description of each category:

Table 1. Categories of content analysis with definitions of each category

Category Title	Definition
Figure	Content of the artwork includes a human (or humanoid) figure.
Female Figure	Content of the artwork includes a female figure.
Person of Color	Content of the artwork includes a person of color.
Sexual Attire	Female figures dressed in accentuating or revealing clothing, or in a state of undress.
Player Interaction	Female figure engages the player through outward female gaze, and/or female gaze is directed at the play area.
Male Gaze	Male figures have direct sight lines toward female figures.
Agency	Female figure is depicted as being an active participant in the main activity or theme.
Passivity	Female figure is dominated, subjugated, passive, or depicted in ancillary roles to the main activity or theme.
Female Endangerment	Female figure is in placed in jeopardy.
Fantastical Characterization	Female figure is depicted as a monster or magical being.

Source: Author.

Categories that were not applicable to the artwork were left unmarked. For instance, if the artwork did not include a female figure, the fields for indicating sexual attire, player interaction,

male gaze, agency, passivity, female endangerment, and fantastical characterization were left empty. All entries included indicators for the first three categories: figure, female figure, and person of color. After those ten categories, I included columns for thematic description, additional observations, and keywords. Keywords were used to identify unforeseen elements and trends that emerged during the survey process.

Next, I will describe my categories of analysis in depth, and then present additional findings and conclusions based on survey results, followed by the culmination of my research in pinball history, women's studies, and visual culture.

Figure Present

The first category is the most straightforward. Were there one or more human figures, regardless of gender, depicted on the backglass or playfield? A "1" indicated an affirmative response, while a "0" indicated a negative response. In some cases, figures were humanoid or human shaped constructs. While I included humanoid aliens, monsters, and magical creatures in my definition of a "figure," I did not include robots.⁶⁶

Female Figure Present

The second category indicates the presence of an easily identifiable female figure. This description is based on the perception of gender through gender signifiers. Common gender signifiers were found in hairstyles, clothing, makeup, and body shape. Again, a "1" indicated an affirmative response, while a "0" indicated a negative response.

⁶⁶ Gottlieb's 1974 games *Magnotron* and *Duotron* were the only examples that depicted a robot and no humans.

Person of Color Present

This category indicates the presence of a person of color. By its very nature, this category implied racial identification based on skin color. Other characteristics, such as hairstyles, clothing, and accessories, were poor indicators of race in this context. Race, like gender, is a social construct, and when based on physical appearance, it is a highly speculative category of analysis. The identification of race was problematized in two particular ways in regards to pinball artwork. First, white or light-skinned figures were dressed in the clothing and style of a non-western, non-European culture, and placed within a geographic setting where a majority of the population is non-white. Second, white or light-skinned figures were dressed in the clothing and style of a non-western or non-European culture within a neutral or westernized setting. These occurrences either involved the white-washing of non-white figures or cultural appropriation of non-European cultures. There was an overall lack of representation of people of color. Out of 193 examples of pinball artwork, only three examples featured African American women of color.⁶⁷ This study introduces the representation of race in pinball artwork as a category of analysis that requires further research.

Player Interaction

This category refers to a technique used to engage the viewer in an immersive play experience. Do images of women interact with the viewer? First, what qualifies as interaction? Interaction is defined in two ways, and either way indicates the presence of player interaction. The first way the image of the female interacts with the player is to gaze outward, toward the

⁶⁷ See figures 16, 17, and 18. *Super Star*, *Playboy*, and *Star Trek*. *Playboy* does not depict a woman of color on the backglass, but careful examination of the playfield found a small portrait of an African American woman beside the description “Miss May.”

viewer.⁶⁸ The second way this interaction occurs is when the female figure's gaze or posture is focused toward the action of the ball, in an area where action occurs. The female figure interacts with the gameplay most often by gazing at the center of the playfield, either from the triangular plastics located slightly above and outside each flipper, or from elsewhere on the playfield.

Players also interacted with pinball images in other ways that could not be properly captured in the survey alone. Nearly all contemporary pinball machines have lights inserted into the playfield, called "inserts," that the player lights during gameplay. Some machines employ a gameplay mechanic of hitting targets or rollovers, and lighting a series of inserts to reach a goal or collect points. Each insert lit on the playfield is an indicator of progress. In the game *Playboy*⁶⁹, players must light inserts beside portraits of women with descriptions like "Miss March" and "Miss September" to score points.⁷⁰ The ball must hit the target beside the woman to light the insert. Similarly, a bank of drop targets on the opposite side of the playfield with women's faces on them encourages players to hit targets of women to collect them and ultimately "score."⁷¹

Another game that encourages players to interact in a more subtle way is Sega Enterprises Limited's *Woman-Lib* pinball.⁷² According to a description of the game on the Internet Pinball Database, "The manufacturer's flyer refers to the center five standup targets as a 'placard' type of target. Each moves side-to-side asynchronously to each other and never touching each other. The effect is to simulate the movement of signs held by people at demonstration rallies and parades. Each target will stop moving when hit by the ball several

⁶⁸ See figures 19 and 20, *Stampede*, artwork by Christian Marche, Stern Electronics, 1977.

⁶⁹ See figure 17 and 21, *Playboy* backglass and playfield.

⁷⁰ See figure 22, detail of *Playboy* playfield, standing targets.

⁷¹ See figure 23, detail of *Playboy* playfield, drop targets.

⁷² See figures 24, 25, and 26, *Woman-Lib*.

times.”⁷³ In this context, it is implied that the player must hit the moving targets, or protest signs like the ones wielded by women in the backglass image, to halt their movement.

Sexualized Attire

Sexualized attire includes any clothing or lack of clothing on a female figure, from the neck to knee, that emphasizes parts of the body. Particular emphasis is often placed on the breasts, midriff, or upper thigh. Full nudity is rare. The most common examples of sexualized attire include the mini skirt and the low-cut top. Mee-Eun Kang’s work inspired by Goffman’s *Gender Advertisements* introduces *Body Display* as a category of analysis. Many of Goffman’s categories (*Feminine Touch*, for example) are quite subtle, while some more overt displays of sexuality cannot be captured in Goffman’s survey at all.⁷⁴ *Body Display* captures occurrences of “body-revealing clothes or nudity,” which includes “mini-skirts, tight shirts or evening gowns which expose cleavage, ‘short’-shorts, ‘see-through’ clothes, halter dress[es] or bathing suits.”⁷⁵

Attire that emphasizes the outline of the nipples is included in sexualized attire for two reasons. First, there is not one instance in which men’s nipples are visible through their clothing, and second, the inclusion of the nipple outline is documented as an addition used to heighten the sexualization of the female in the artwork, contextualized as a rebellious act. Keith Temple quotes artist Dave Christensen in *Pinball Art*: “I started sneaking in a little shadow area where the nipple was, then Paul Faris and Kevin O’Connor were putting them in too.”⁷⁶ The most risqué machines of this time period seem to have low production numbers for a select clientele.

⁷³ “Woman-Lib,” Internet Pinball Database, accessed May 9, 2016, <http://www.ipdb.org/machine.cgi?id=4565>.

⁷⁴ One of the criticisms of his survey is that it was tailored to fashion advertisements, in much the same way my survey may be tailored to pinball.

⁷⁵ Mee-Eun Kang, “The portrayal of women’s images in magazine advertisements: Goffman’s gender analysis revisited.” *Sex Roles: A Journal of Research* 37, no. 11-12 (December 1997): 985.

⁷⁶ Keith Temple, *Pinball Art* (London: H.C. Blossom, 1991), 77.

Machines depicting full frontal nudity were either altered by aftermarket artists, collectors, or players, or they were custom ordered from individual artists rather than the manufacturer.⁷⁷

John Berger points out that “...almost all post-Renaissance European sexual imagery is frontal—either literally or metaphorically—because the sexual protagonist is the spectator-owner looking at it.”⁷⁸ Berger uses the work *An Allegory with Venus and Cupid* from about 1545⁷⁹ to illustrate this fact. Berger writes:

Her body is arranged in the way it is, to display it to the man looking at the pictures. This picture is made to appeal to his sexuality. It has nothing to do with her sexuality. (Here and in the European tradition, generally, the convention of not painting the hair on the women’s body helps towards the same end.)⁸⁰

This assessment is crucial to understanding how and why women dressed in sexualized attire on pinball machines are posed, and how posed women are being sexualized. As for advertisements, Berger states that “today the attitudes and values which informed that [Western] tradition are expressed through other more widely diffused media—advertising, journalism, television... But the essential way of seeing women, the essential use to which their images are put, has not changed. Women are depicted in a quite different way from men—not because the feminine is different from the masculine—but because the ‘ideal’ spectator is always assumed to be male and the image of the woman is designed to flatter him.”⁸¹

In pinball artwork, as in fine art, nakedness is often a display of sexual availability. In relation to one particular painting, Berger makes an observation of Western Art that can be

⁷⁷ See figures 27 and 28, *Twin Win*. Dave Christensen is a former pinball artist that occasionally created custom pinball artwork on the side.

⁷⁸ John Berger, *Ways of Seeing* (London; New York: British Broadcasting Corporation (BBC); Penguin Books, 1977), 56, PDF e-book, accessed March 10, 2016, <http://waysofseeingwaysofseeing.com/ways-of-seeing-john-berger-5.7.pdf>.

⁷⁹ See figure 29, *An Allegory with Venus and Cupid*.

⁸⁰ John Berger, *Ways of Seeing*, 55.

⁸¹ John Berger, *Ways of Seeing*, 63-64.

applied to most pinball artwork: “This nakedness is not, however, an expression of her own feelings; it is a sign of her submission to the owner’s feelings or demands. (The owner of both woman and painting.) The painting, when the King showed it to others, demonstrated this submission and his guests envied him.”⁸² Although it is interesting to consider the relationship between body display and passivity, I chose to separate the categories of Sexualized Attire and Passivity for this study. Partial nudity is not considered passivity.

Another reason for this separation between sexual attire and agency and passivity is due to the phenomenon of conflating sexual attire with sexual liberation. This was not an accidental association, but the result of a deliberate act of advertisers in the 1960s and 1970s (and beyond) who “defined the emancipated woman as one who wore miniskirts, paper dresses, and...bathing suits... a sort of James Bond girl who was sexually liberated, meaning she was willing and available, if not downright promiscuous.”⁸³

One difficulty with categorizing attire by these parameters is the appearance of specialized clothing, such as swimwear, space suits, togas, or other theme-appropriate attire in which all figures, male and female, wear similarly tight and revealing clothing. In my survey I marked these entries as attire neutral games and indicated a 0 in this category. When the clothing of female figures was compared to male figures, and females showed significantly more skin than males in the same scene, this was a signal that females were being sexualized. In contrast,

⁸² John Berger, *Ways of Seeing* (London; New York: British Broadcasting Corporation (BBC); Penguin Books, 1977): 52, PDF e-book, accessed March 10, 2016, <http://waysofseeingwaysofseeing.com/ways-of-seeing-john-berger-5.7.pdf>.

⁸³ Susan Douglas, *Where the Girls Are: Growing Up Female with the Mass Media* (New York, NY: Three Rivers Press, 1994), 152. The modern equivalent is referred to as “enlightened sexism.” The modern equivalent is referred to as “enlightened sexism.” See also Susan Douglas, *The Rise of Enlightened Sexism: How Pop Culture Took Us from Girl Power to Girls Gone Wild* (New York, NY: St. Martin's Press, 2010).

there is a clear example of sexualized attire in *Charlie's Angels*, in which the women are depicted in attire not only different from men, but also vastly different from other women.⁸⁴

Male Gaze

Male gaze refers to when a male figure looks at, via direct sight line, a female figure within the same image. Most pinball artwork is executed for the player's gaze alone, but there are sometimes instances in which male figures inform the viewer of how to react to the images of women they present. According to Hazel G. Warlaumont, "visual grammar of patriarchal discourse is established and maintained through the concept of gaze."⁸⁵ Laura Mulvey describes the male gaze as something active that treats "other people as objects, subjecting them to a controlling and curious gaze."⁸⁶ The male gaze is rooted in male desire and preferences, often influenced by male gender roles and expectations. The most significant aspect of Mulvey's description is how the male gaze actively objectifies women as objects to be surveyed. John Berger makes no distinction between the woman and the image of a woman when he observes, "men act and women appear... Men look at women. Women watch themselves being looked at... The surveyor of woman in herself is male: the surveyed female. Thus she turns herself into an object – and most particularly an object of vision: as sight."⁸⁷ Berger's observation is consistent with Mulvey's description of the pervasive male gaze as an agent of objectification. The male gaze is both a conscious and unconscious method of constructing and perceiving the

⁸⁴ See figures 30 and 31, *Charlie's Angels* backglass and playfield.

⁸⁵ Hazel G. Warlaumont, "Visual Grammars of Gender: The Gaze and Psychoanalytic Theory in Advertisements," *Journal of Communication Inquiry* 17, no. 1, (SAGE Publications, Winter 1993): 26, accessed April 15, 2016, <http://jci.sagepub.com/content/17/1/25>.

⁸⁶ Laura Mulvey, "Visual Pleasure and Narrative Cinema," In *Film Theory and Criticism: Introductory Readings*, Leo Braudy and Marshall Cohen, eds. (New York: Oxford UP, 1999), 835.

⁸⁷ John Berger, *Ways of Seeing* (London; New York: British Broadcasting Corporation (BBC); Penguin Books, 1977): 47, PDF e-book, accessed March 10, 2016, <http://waysofseeingwaysofseeing.com/ways-of-seeing-john-berger-5.7.pdf>.

world through the male perspective, as internalized by both men *and* women. The pervasiveness of this gaze throughout all forms of media, from fine art to cinema to pinball games, has led to its virtual imperceptibility in everyday media consumption. My definition of male gaze for the purposes of this survey employs its most literal definition, as the gaze of a male character, or the player, upon the female figure.

The observable male gaze is one of the most obvious signifiers of sexual objectification, or the definition of woman as a sexual object. The American Psychological Association, *Report of the Task Force on the Sexualization of Girls* describes sexual objectification as one of the “components to sexualization [that] set it apart from healthy sexuality.”⁸⁸ The APA definition of sexual objectification is relevant to images, and states that it occurs when “a person is sexually objectified—that is, made into a thing for others’ sexual use, rather than seen as a person with the capacity for independent action and decision making.”⁸⁹ Not only does it occur within the artwork itself, but it can also occur when the player views the artwork.

Agency

Kang’s category of *Independence and Self-Assertiveness*, the second addition to her survey based on Goffman’s analysis, also informed this particular category of analysis.⁹⁰ For the purposes of this survey, I define agency as any observable form of autonomy, self-direction, or self-assertiveness of a female figure in pinball artwork, particularly acts that show a “resistance

⁸⁸ American Psychological Association, “Task Force on the Sexualization of Girls, Report of the APA Taskforce on the Sexualization of Girls” (2007): 1, accessed March 14, 2016, <http://apa.org/pi/women/programs/girls/report-full.pdf>.

⁸⁹ American Psychological Association, “Task Force on the Sexualization of Girls,” 1.

⁹⁰ Mee-Eun Kang, “The portrayal of women’s images in magazine advertisements: Goffman’s gender analysis revisited,” *Sex Roles: A Journal of Research* 37, no. 11-12 (December 1997): 985.

to subordination or oppression.”⁹¹ Resistance to subordination in the case of 1970s pinball artwork is relative to the activity female figures do and do not participate in within the entire survey sample. To exhibit agency, the female figure must be depicted as an active participant in the main activity or theme of the artwork. An interesting example is the image of a woman and man playing pool. In Gottlieb’s *Bank Shot* (1976)⁹², a woman and a man are playing pool together, and the action of the woman’s pool cue hitting a ball is clearly visible. Other male figures in the scene are watching the action, not the woman, and they are dressed clothing that dates back to the first half of the twentieth century. In the replay version of the game, titled *Sure Shot* (1976), the backglass shows the woman in the exact same pose with billiard balls flying everywhere, and an additional male figure laughing behind a piano.⁹³ These slight additions undermine the woman’s success and aptitude. The playfield for both games shows only male players.⁹⁴

Agency can be a problematic category in a number of ways. First, the female figure can show agency in a role without being included in the main theme or activity being depicted. For example, a football-themed game would include male players and female cheerleaders. In this case, a “1” was indicated in categories of agency *and* passivity. The second challenge occurs, oddly enough, when the primary activity depicted in the artwork is a group activity in which figures are participating equally. Collaboration can be associated with both independent action and dependence on others. As you will see below, I did not include a category for gender participation parity when developing this survey. In instances where gender norms in 1970

⁹¹ Kathryn Abrams, “From Autonomy to Agency: Feminist Perspectives on Self-Direction,” *William & Mary Law Review* 40, no. 3, article 6 (1999): 807, accessed April 17, 2016, <http://scholarship.law.wm.edu/wmlr/vol40/iss3/6>.

⁹² See figure 32, *Bank Shot*.

⁹³ See figure 33, *Sure Shot*, backglass.

⁹⁴ See figure 34, *Sure Shot*, playfield.

would suggest a female is taking independent action in a non-normative situation, agency becomes apparent. It is the author's feminist assumption that gender parity in activities should be a baseline in evaluating content, so when there was no clear indication of action or passivity, a "0" was indicated in each category. In contrast, in Bally's *Dolly Parton*, the musician Dolly Parton was not simply included in the theme of the game, she *was* the theme of the game.⁹⁵

Agency is also a challenging category due to the common practice of illustrating women in the act of what I call *symbolic participation*. They may be holding an implement related to the activity being depicted, but no action is being taken or alluded to otherwise. Often, inactivity is paired with a distant gaze. For instance, Gottlieb's *Pro Pool* (1973) shows women holding pool cues, but standing in the background with gazes directed away from the billiard table.⁹⁶ In these instances, agency was marked with a "0" and passivity was marked with a "1."

Passivity

This category indicates whether or not a female figure is depicted in a passive, submissive, subordinate, or dependent role. This includes lack of participation⁹⁷, and participation in roles that are ancillary or otherwise related to the main activity without directly participating in the main activity. This also includes instances of *symbolic participation*, as mentioned above, in which the figure is holding an implement related to the activity being depicted, but shows no indication of actual participation. The gaze is an important indicator of non-participation. According to Erving Goffman, "evidence of an individual's involvement will

⁹⁵ See figures 35 and 36, *Dolly Parton* backglass and playfield.

⁹⁶ See figure 37, *Pro Pool*.

⁹⁷ See figure 38, *Champ*. Compare with figure 13, Gottlieb's *Super Score*, 1967.

come from the direction and mobility of [her] gaze, as well as the alignment of [her] eyes, head, and trunk, these ordinarily oriented in the same direction.”⁹⁸

The very nature of pinball artwork is decorative; however, within the content of the image, the female role as a decorative object is imposed upon her by the artist in a variety of ways. In *Gender Advertisements*, Goffman describes several categories that speak to body language and other gender displays that denote passivity, including *Relative Size*, *The Feminine Touch*, *Function Ranking*, *The Ritualization of Subordination*, and *Licensed Withdrawal*. *Relative Size*, in the case of pinball artwork, often indicates distance from the foreground as well as the action, and females with a smaller relative body size to males. *Feminine Touch* is typically exhibited when the female figure touches their face in contemplation or worry. When this happens, they are often in a kind of emotional withdrawal. *Function Ranking* occurs when male figures are showing female figures how to participate in an activity, or are in a position of authority over them.⁹⁹ *Licensed Withdrawal* occurs most often when the gaze is distant and the body is facing away from the action. Because the female body is often facing forward for the male viewer, the head and gaze are more often affected. *Ritualization of Subordination* is described by Goffman as a “classic stereotype of deference...of lowering oneself physically in some form or other of prostration...and a recumbent position is one form which physical defense of oneself can least well be initiated and therefore one which renders one very dependent on the benignness of the surround.”¹⁰⁰ Recumbent poses are sometimes used in conjunction with scenes of female endangerment to bestow and emphasize the woman’s defenselessness.

⁹⁸ Erving Goffman, *Gender Advertisements* (New York: Harper & Row, 1976), 18.

⁹⁹ See figure 39, *Bon Voyage*.

¹⁰⁰ Erving Goffman, *Gender Advertisements* (New York: Harper & Row, 1976), 40-41.

Female Endangerment

Female Endangerment occurs when the artwork depicts a female under threat of physical harm, or when she shows visible indicators of distress that would imply fear of danger. Examples of this theme include women held captive, tethered by a chain or rope, like in the backglass images of *Hercules* and *Paragon*.¹⁰¹ In these images, the woman is clearly in distress, and we see another common theme—that of the male hero coming to her aid, who acts as a double for the player, unless the player fashions themselves the *antagonist* in this scene.

These already troubling images are problematized further when the *permissive smile* is introduced. Smiles, Goffman suggests, can “often function as ritualistic modifiers, signaling that nothing agonistic is intended or invited, that the meaning of the other’s act has been understood and found acceptable, that, indeed, the other is approved and appreciated.”¹⁰² In other words, the smile signifies consent, not just as a way to placate the other actors in the scene, but as a signal that the viewer of the image, or player, need not be alarmed. This is a strange sight, when a woman in an otherwise harrowing situation appears not only worry-free, but quite pleased with the situation.

The most troubling depictions of women involved four affirmative categories in combination: Female Figure Present + Sexualized Attire + Passivity + Female Endangerment. The female figure wears revealing attire, is posed submissively, and is under threat of physical harm. Combined with a permissive smile, a scene that was intended to excite the male viewer appears perverse.

¹⁰¹ See figures 40 and 41, *Hercules* and *Paragon*.

¹⁰² Erving Goffman, *Gender Advertisements*, 48.

Fantastical Characterization

This category described the presence of a female figure as a monster, mythical being, or magical being. According to Susan Douglas' book *Where the Girls Are*, the transformation from human woman into magical being, as in the cases of Jeanie from *I Dream of Jeanie* and Samantha from *Bewitched*, allowed these characters to be active agents in a way that other television woman were not. In what Douglas calls a "new version of Pandora's box," these female characters were allowed to push boundaries of sexuality and agency in interesting ways, as long as the genie was put back in the bottle by the end of the program.¹⁰³ As such, I explored whether or not women in pinball artwork were allowed more license and power as magical beings than their human counterparts. However, when pinball artists introduced depictions of women with magical powers, those powers often served to make the character more exotic. In the case of Gottlieb's *Genie*, the female genie's body is on display instead of her magical powers.¹⁰⁴ The intentionality of the sexual display of her body is alluded to in an advertisement that boasts "Gottlieb's wide and beautiful body," alluding to both the "wide body"¹⁰⁵ model of the cabinet and body of the genie.¹⁰⁶

¹⁰³ Susan Douglas, *Where the Girls Are: Growing Up Female with the Mass Media* (New York, NY: Three Rivers Press, 1994), 126.

¹⁰⁴ See figures 42 and 43, *Genie* backglass and playfield.

¹⁰⁵ Gary Flower and Bill Kurtz, *Pinball: The Lure of the Silver Ball* (Edison, NJ: Chartwell Books, 1997), 78. According to Flower and Kurtz, "about six inches wider than conventional machines, this large-sized [wide body] format had been pioneered by... Atari in 1977 with *The Atarians*." The novelty of the larger format was short-lived in favor of tighter, faster gameplay in standard sized machines.

¹⁰⁶ See figure 44 for a flyer of Gottlieb's *Genie* pinball machine, which states "Now! Gottlieb's wide and beautiful body" beside a detail of genie appearing from the confines of a magic lamp.

Survey Findings

Overall, my survey sample included 193 individual sets of artwork, spanning ten years. Combined, 1,040,695 pinball machines were produced in the United States from my survey sample alone. I made simple calculations based on the full sample of artworks before moving on to sexualization of the female image, in particular. Of the 193 artworks by eleven different artists from three major pinball manufacturers, 97.4% included human figures. 76.7% included female figures, and 14.5% depict people of color. In order to determine how women were represented in pinball artwork, percentages needed to be based on the number of machines depicting female figures rather than the total of artworks surveyed. Of the machines that depicted female figures, the following numbers have been calculated:

Table 2. Percentage of females depicted in pinball artwork by occurrence, 1970–1979

Description of representation	%
Exhibited sexualized attire	79.0%
Exhibited player interaction	62.4%
Exhibited male gaze	23.9%
Exhibited agency	41.3%
Exhibited passivity	52.6%
Exhibited female endangerment	15.0%
Exhibited fantastical characterization of the female figure	9.8%

Source: Author. Percentage of females depicting selected categories of content analysis in pinball artwork between 1970 and 1979.

I also examined the results from all categories for each individual manufacturer and found some interesting comparisons. Bally Manufacturing Company and D. Gottlieb & Company relied on

human figures in their artwork (98.4% and 98.7% respectively), while Williams Electronics, Inc. was more willing to explore themes that did not rely on figures, at 94.1%. Bally's reliance on the human figure did not mean they relied on the *female* figure, as they only appeared 69.8% of the time (as opposed to Gottlieb 81.0% and Williams 78.4%). The women Bally did depict, however, exhibited the most sexualized attire at 86.4% (well above Gottlieb's 68.8% and Williams' 75.0%). At 9.5%, Bally's artwork depicted people of color more frequently than other manufacturers (Gottlieb 4.4% and Williams 4.5%) and exhibited the least amount of cultural appropriation and white-washing.

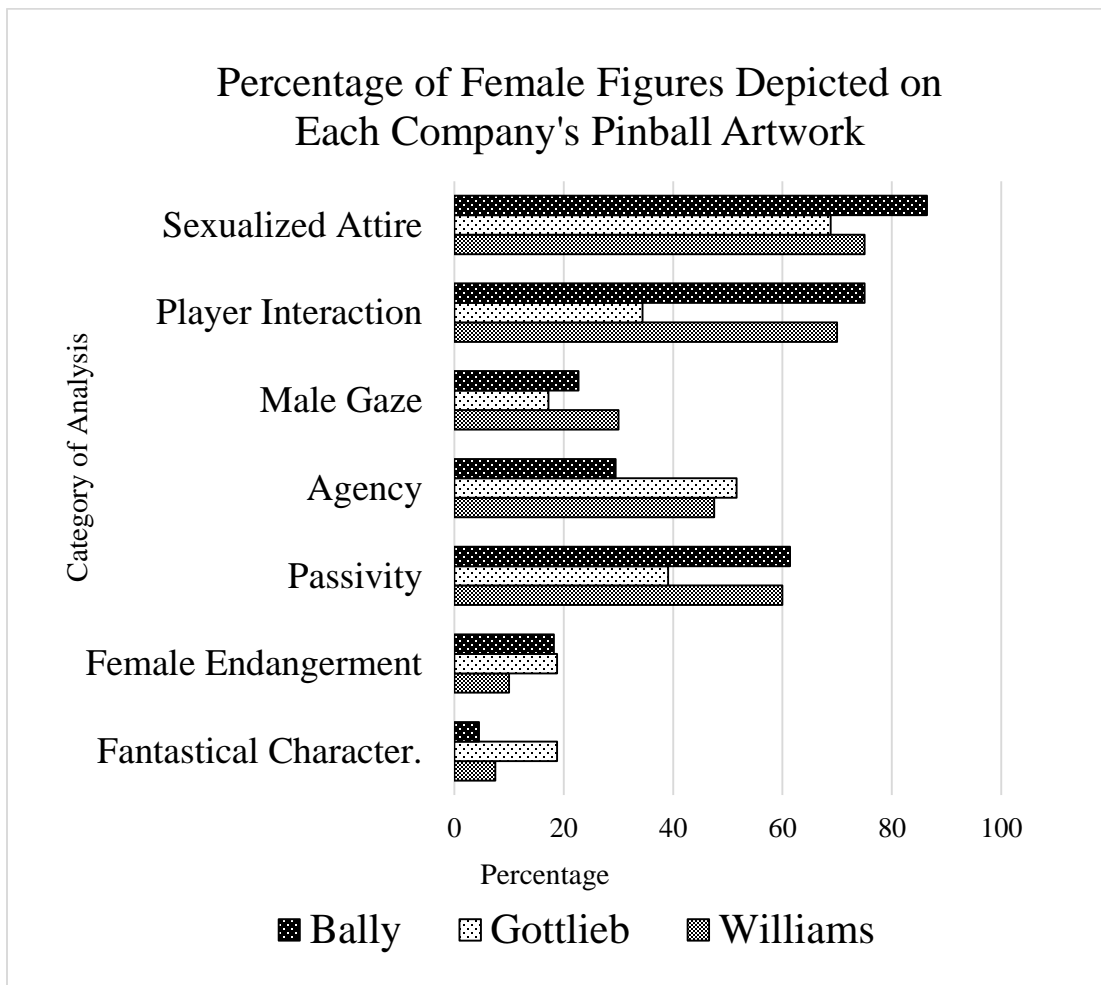


Figure 45. Bar graph depicting how three different pinball manufacturers depicted females in pinball artwork according to specified categories of content analysis.

The above calculations are relative to each company. For example, out of all of the images Gottlieb artists produced between 1970 and 1979, 18.8% of them depicted fantastical female characters, which far exceeded that of Bally and Gottlieb combined. Gottlieb was also the only company to represent more women with agency than with passivity. Additional observations were made through content analysis that are not represented in the data. The unarmed woman, the *permissive smile* and *symbolic participation* were not included in this survey, but might be of use for further study.

Despite feminist critiques of sexism in visual media during the 1970s, pinball artwork continued to depict women as sexual objects. The line graph below depicts selected categories that show change over the ten year period of this study. Notice that player interaction became increasingly important when depicting the female figure. This study was conducted to record the prevalence of sexualization in pinball artwork, and while the data shows change over a ten year period, more data is needed from the preceding and following decades to contextualize these changes over time. In order to determine if the social climate of the 1970s might have had an impact on pinball artwork, data from the 1960s and 1980s could support a more thorough investigation.

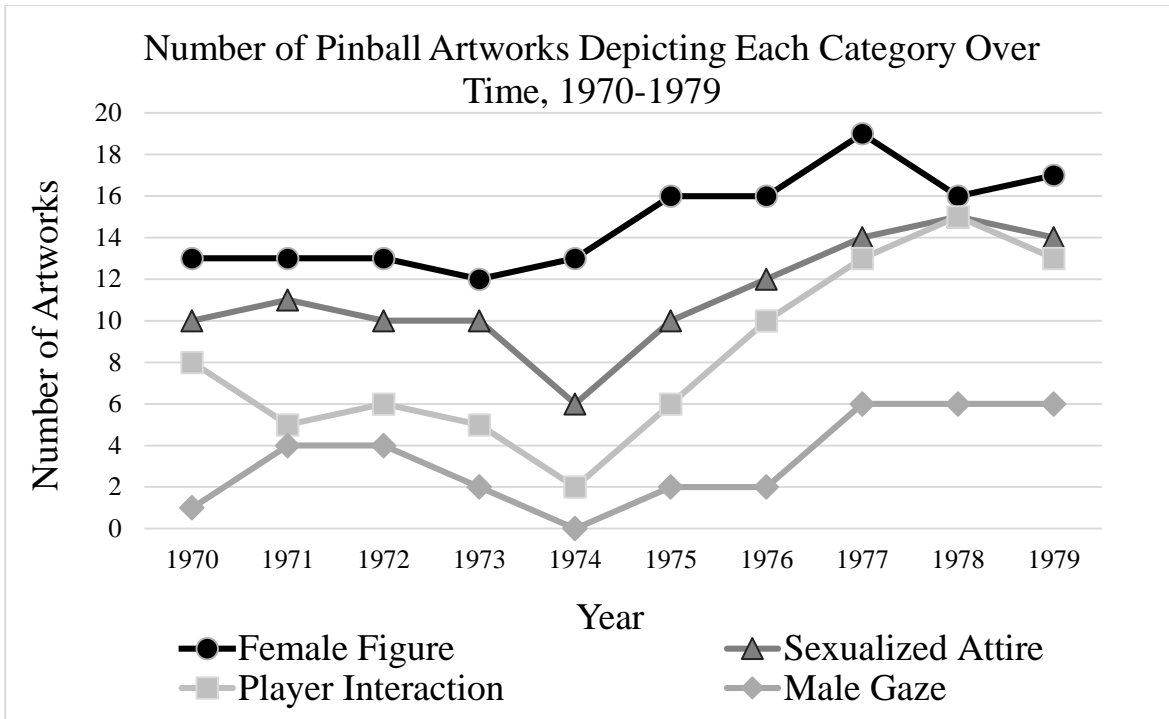


Figure 46. Line graph depicting change in the content of pinball artwork over time, from 1970 to 1979.¹⁰⁷

This survey was informed by previous research in the fields of communications studies visual studies, and women and gender studies, in order to create a new system for analyzing pinball artwork. As such, it is the first of its kind used in pinball research. More data is needed to determine and interpret change in the representation of women in pinball artwork over time. With only a few artists producing pinball artwork for three major pinball manufacturers in any given year, each artist had significant influence over the kind of imagery the public encountered.

¹⁰⁷ There is a drop in the number of artworks in multiple categories in the year 1974. The cause for this drop is unknown, but it seems to correlate with an increase in pinball artwork without women, and even without figures at all.

Conclusion and Further Research

The use of sexist imagery is not unique to pinball art, but perhaps it found some shelter there during the second wave feminist movement. While mainstream media, including television, movies, and magazines were being scrutinized for sexist representations of women, pinball machines flew under the radar as an activity largely enjoyed by male players in male-dominated spaces. The continued use of the sexualized female body in all forms of media—including pinball art—is what makes this dialogue worth-while. It is especially relevant as pinball manufacturers, whose focus has been on licensed games, return to original themes.¹⁰⁸ As artists attempt to bring back a “classic” pinball style, we should be able to identify what that really means.¹⁰⁹ If “classic” pinball is inseparable from sexualized images of women, can we not try to separate them and see where that leads us? Will games continue to look like *Whoa Nellie! Big Juicy Melons* or will original artwork contain original content constructed outside of 45-year-old sexist framework?

Before we tackle questions like these, and take the unpopular road of critical analysis of a beloved pastime, we must be prepared with the knowledge and data. This study is the first to track the prevalence of the sexualization of women in pinball artwork over time, and its results yield information pertaining to artwork from 1970 to 1979. This study marks the first step in a process of critical analysis of pinball artwork, a medium which has largely been overlooked in women and gender studies. Utilizing systematic, critical analysis of visual content, like Goffman’s content analysis of advertisements, is new territory for pinball scholarship. This study has also initiated a dialogue between pinball history and women’s studies, and has continued the

¹⁰⁸ See Figures 1 and 2, *Whoa Nellie!* backglass and playfield. According to the Internet Pinball Database at ipdb.org, *Whoa Nellie! Big Juicy Melons* was made by Whizbang Pinball of Lake Villa, IL in 2010 and released in 2011. Stern manufactured it again in 2015, and it is still available for sale as of April, 2016.

¹⁰⁹ Michael Shalhoub, *The Pinball Compendium: 1970-1981* (Atglen, PA: Schiffer Publishing, 2004), 7.

dialogue between pinball and visual studies, and pinball and cultural studies. But what conclusions can be made from making such connections and collecting such data?

The established narrative of progress as seen through pinball technology appears in much of the existing pinball literature. But as this study has shown, the ideology expressed through pinball artwork does not neatly follow that same narrative of progress.¹¹⁰ If we assume social and political ideologies behind the messages in pinball artwork have improved as steadily as pinball engineering, we end up with the false idea that the 1950s were oppressive, the 1960s started the sexual revolution, and the 1970s were better still as evidenced by the activism of the women's liberation movement. The truth that this narrative is not a steady progression, but a series of hard fought ideological battles, with moments of backlash and resurgence of retrograde ideologies, is a difficult truth to deliver within the scope of this study.

Through further research, writing this narrative as it relates to pinball artwork is possible. The backlash that likely occurred during the 1970s only becomes apparent when we examine the change in women's representation over time, which is why it is so important to continue this line of inquiry. A reaction to the women's movement as seen through pinball artwork was an increased feminization and sexualization of women during the 1970s. Women were drawn with long hair, skirts, and exposed cleavage so other males—males in the artwork and the male player—are in contrast more masculine, more dominant, and more in control. The need for control over one's sexuality, one's economic well-being, and one's identity manifested itself in many ideological battles in the 1970s, fought on a variety of proving grounds. The pinball machine, a test of a person's control over the chaotic action of the ball, *was* a “synecdoche of

¹¹⁰ While specific playfield features sometimes resurfaced, they were often flash-in-the-pan affairs. The incorporation of playfield elements, for example, cannot be compared with people's long-term investment in feminist and sexist ideologies.

everyday experience” in the way that it allowed for the simulation of this battle for control in tumultuous times.¹¹¹

While these historical claims are bold statements, the data gathered from the survey provides more succinct information that can be used for small scale and large scale analysis. Analyzing pinball artwork using the methodology of this study facilitated connections between pinball artwork and other media in a way that can be measured, and compared again. My survey of pinball artwork from 1970 to 1979 is just the beginning of a line of research that extends backward and forward in time. The survey can be applied to both preceding and later decades in its current form, but it can also be adapted for further research.

The 1980s and beyond provide many interesting avenues for future study, but I offer two, specifically: the proliferation of licensed pinball games and the introduction of sound into the user experience. The former would require examining pinball in the 1980s and 1990s to see how the trend toward licensed games shaped pinball artwork over time. The pinball industry’s move toward licensed games ensured they would have current, relevant imagery on their machines. Licensed games also provided global reach due to the global influence of American television, music, and cinema. Licensing also may have had a positive impact on the depiction of women on pinball machines in the late 1970s and onward. One example was the inclusion of Lieutenant Uhura on Bally’s *Star Trek* backglass in 1978.¹¹² Her inclusion marked only one of three¹¹³ depictions of women of color on over 193¹¹⁴ pinball backglasses over the 1970s, and in it she

¹¹¹ Peter K. Manning and Bonnie Campbell, “Pinball as Game, Fad, and Synecdoche,” *Youth & Society* 4, no. 3, (SAGE Publications, March 1973): 333, accessed April 16, 2016, <http://yas.sagepub.com.ezproxy.rit.edu/content/4/3/333>.

¹¹² See figure 18, *Star Trek*.

¹¹³ See figure 16 and 17, *Super Star* and *Playboy*.

¹¹⁴ The number of backglasses produced in 1970s exceeds this number by far when including machines outside the survey sample, to include machines by Chicago Coin, Stern, Atari, and other manufacturers, as well as machines from Bally, Gottlieb, and Williams that had low production numbers.

exhibits the kind of agency she displays in the ground-breaking television series of the same name.

The shift to producing games based on movie licenses may have curtailed the increasingly sexualized images in original designs, only to replace it with the conventions and expectations of film production companies and owners of other properties. In one instance in the 1990s, Universal Pictures “nixed”¹¹⁵ the depiction of girls in cages, hanging above the stage where fictional band of B-movie monsters rocked a concert hall.¹¹⁶ The same attention was not given to the Creature from the Black Lagoon’s victim, whom he miraculously cradles in his arms while holding, and presumably playing, a saxophone. As darkly humorous as that scenario is, it is also revealing of the tenacity with which the Creature from the Black Lagoon must hold onto his *brand*. The artwork of *The Creature from the Black Lagoon in 3-D* (1992), also by Kevin O’Connor, uses a similar image of the creature and his captive.¹¹⁷ We all know it takes two hands to play a saxophone. It was easier to suspend belief by suspending a saxophone in midair than to remove the “damsel in distress” from the arms of the Creature from the Black Lagoon.

At the close of the 1970s, sound designers introduced digital sound effects, recorded vocal tracks, and electronic background and thematic music that had a significant impact in shaping the player experience and interpreting the artwork. Many of the figures depicted in the artwork would soon be given a voice. While Williams’ *Gorgar* was the first pinball released with vocal audio tracks in 1979, several notable games with female protagonists would follow.

Bally’s *Xenon*, developed in 1979 and released in 1980, was the first pinball game to feature a

¹¹⁵ See figures 47 through 51, *Monster Bash* artwork.

¹¹⁶ "Developing Monster Bash," Blog, Professional & Amateur Pinball Association (Replay Foundation, 2013), accessed February 2, 2016, <http://papa.org/2013/12/12/developing-monster-bash/>.

¹¹⁷ See figure 52, *The Creature from the Black Lagoon in 3-D*.

female vocal tracks, recorded by Suzanne Ciani.¹¹⁸ Other games narrated in full or in part by female characters include *Elvira and the Party Monsters*, *The Machine: Bride of Pinbot*¹¹⁹ (1991), *Red & Ted's Road Show* (1994), *Theatre of Magic* (1995), *Scarred Stiff* (1996), *Tales of the Arabian Nights* (1996), *Cirque Voltaire* (1997), and *Monster Bash* (1998). A journey into sound would be a rewarding, but much more challenging endeavor in terms of access. Since pinball machines are truly multimedia experiences, in picture, light, sound, and motion, a more comprehensive study could give a more accurate representation of the pinball experience.

Today pinball machines are not as ubiquitous as they once were, but their imagery is still impactful wherever they are placed. Audience reception of pinball in public spaces today is another exciting avenue of research that can complement content analysis and interpretation. Pinball is experiencing a resurgence in popularity. While machines are increasingly entering the homes of collectors and hobbyists, perhaps the best indicator of their return is the emergence of boutique pinball manufacturers, arcades, “barcades,” and pinball museums. Unlike arcades, which are seen almost exclusively as entertainment venues, the museum is fosters critical thinking about pinball. Visitors bring with them their own experiences and ways of perceiving. Within the museum space, this knowledge is contextualized, challenged, reinforced, and contradicted, in an educational environment. What happens when pinball machines are presented not only as playable games, but also as historical and contemporary cultural objects? In *Game After: A Cultural Study of Video Game Afterlife*, Raiford Guins examines “the meanings, uses,

¹¹⁸ Suzanne Ciani designed the sound for the entire game experience, with the exception of some last-minute additions before production. This contribution is largely overlooked due to the release of Gorgar the year prior as the first game to feature voice tracks. Compare to Gorgar's speech.

¹¹⁹ One of the most relevant lines is from the highly popular game, *The Machine: Bride of Pinbot*. In *Bride of Pinbot* the player, in the role of the character “Pin-Bot” is tasked with bringing a female robot, “The Machine,” to life. For non-expert players, one of the most rewarding and iconic lines is The Machine announcing “I can speak!” Pin Bot responds with, “OH NO.” which is met with The Machine's robotic laughter. When her voice, her vision, and her humanity have been realized, the process starts all over again.

and values [video games] acquire and shed over time as technological, material, and cultural objects.”¹²⁰ By examining pinball machines in the context of the spaces in which they are placed, including the museum, new patterns of audience reception may emerge. Interpretation within a museum setting can help visitors think critically about representations of gender, race, and sexuality in commercial artwork.

In addition to exploring the spaces in which we play pinball, pinball studies can cross over into other current fields of research. The images in the advertisement, packaging, and content of video games has been similarly criticized for acting as safe houses for sexist messages about women and gender. Women on pinball machines are, by their definition, decoration. But this decoration effect doubles when in the context of the image, the woman does not participate in the action or serve any other narrative purpose. This is in contrast to male characters, who often play a role in the narrative implied by the theme or title of the game. Video game research by feminist scholars has taken an in-depth look at the representation of women over the past several years. Like the American Psychological Association (APA), video game critics are beginning to realize that the representation of women as passive “appendages to the product rather than active consumers or users of the product”¹²¹ psychologically harms both women *and* men. The APA warns, “if girls and women...” continue to be “...seen exclusively as sexual beings rather than as complicated people with many interests, talents, and identities, boys and men may have difficulty relating to them on any level other than the sexual... This could dramatically limit the opportunities boys and men have to interact intellectually with girls and

¹²⁰ Raiford Guins, *Game After: A Cultural Study of Video Game Afterlife* (Cambridge: The MIT Press, 2014), 3, ProQuest ebrary, accessed March 17, 2016, <http://site.ebrary.com/lib/rit/reader.action?ppg=47&docID=10829848&tm=1458248350027>.

¹²¹ American Psychological Association, “Task Force on the Sexualization of Girls, Report of the APA Taskforce on the Sexualization of Girls” (2007): 10, accessed March 14, 2016, <http://apa.org/pi/women/programs/girls/report-full.pdf>.

women, to compete with and against them in sports or games, to create art or make music with them, to work together for higher causes (e.g., volunteer work or activism), or to enjoy their company as friends.”¹²² My goal is not to measure the influence of these images on society, which would be an impossible task. However, the real consequences of using sexualizing and objectifying artwork in pinball requires that the content of the medium be examined thoroughly in this manner, not only by pinball enthusiasts and scholars, but within the pinball industry itself.

¹²² American Psychological Association, “Task Force on the Sexualization of Girls,” 28.

Tables

Table 1. Categories of content analysis with definitions of each category

Category Title	Definition
Figure	Content of the artwork includes a human (or humanoid) figure.
Female Figure	Content of the artwork includes a female figure.
Person of Color	Content of the artwork includes a person of color.
Sexual Attire	Female figures dressed in accentuating or revealing clothing, or in a state of undress.
Player Interaction	Female figure engages the player through outward female gaze, and/or female gaze is directed at the play area.
Male Gaze	Male figures have direct sight lines toward female figures.
Agency	Female figure is depicted as being an active participant in the main activity or theme.
Passivity	Female figure is dominated, subjugated, passive, or depicted in ancillary roles to the main activity or theme.
Female Endangerment	Female figure is in placed in jeopardy.
Fantastical Characterization	Female figure is depicted as a monster or magical being.

Source: Author.

Table 2. Percentage of females depicted in pinball artwork by occurrence, 1970–1979

Description of representation	%
Exhibited sexualized attire	79.0%
Exhibited player interaction	62.4%
Exhibited male gaze	23.9%
Exhibited agency	41.3%
Exhibited passivity	52.6%
Exhibited female endangerment	15.0%
Exhibited fantastical characterization of the female figure	9.8%

Source: Author. Percentage of females depicting selected categories of content analysis in pinball artwork between 1970 and 1979.

Survey of pinball artwork, 1970–1979

Year	Model/Production Code/Title	Manufacturer/Artist(s)	Figure Present? - Female Present?	Ppl of Color	Socialized Attire	Player Interaction/Male Gaze	Agency	Passivity	Engagement	Fantastical	Themes	Observations	Keyword
1970	1 791 Galahad	Bally	1	0	0						fantasy, royalty, castle	Same playfield as Camelot, but backglass is different. Four men, one woman.	
1970	3 2506 Big Valley	Christian Marache	1	0	0						western, outdoors, adventure	Advertisement depicts woman with exposed cleavage.	
1970	4 1050 Bowl-O	Christian Marache	1	1	0	1	0	0	1	0	0 sports, bowling, games	man bowls, women watch and keep score	
1970	6 1256 4 Queens	Christian Marache	1	0	1	0	0	0	1	0	0 playing cards, royalty	Not wearing shoes while the man is. Woman sitting on the playfield is doing her makeup	participation
1970	8 1083 Zip-A-Do	Christian Marache	1	1	0	1	0	0	1	0	0 Mod, flowers	What is happening?	
1970	9 1512 Sea Saw	Christian Marache	1	1	0	1	0	0	1	0	0 Mod, bumper cars, amusement park, entertainment	Women are helpless to stop bumper cars as they chase and run over men.	helpless, under threat
1970	9 1305 Trail Drive	Christian Marache	1	0	0						Western, hunting, animals, outdoors		
1970	10 1865 Camelot	Christian Marache	1	1	0	1	0	0	1	1	0 Fantasy, royalty, warfare, castle, weapons, damsel	Same playfield as Galahad, but backglass is different. Men fight off enemies, damsel (not addressed) on a high tower.	permissive smile, woman unarmed
1971	1 795 Vampire	Dick White	1	0	0						Horror, fantasy	Ad has a woman	
1971	2 895 Firecracker	Christian Marache	1	1	1	1	0	0	1	1	0 foreigners, foreign, international, latino	Mexican stereotype, men and women are white despite being dressed in foreign clothing	Latino-American, white washing
1971	5 3550 Four Million B.C.	Dick White	0	0	0						extremely popular (can I prove it?) despite not having female figure on it--not even in ad flyer on path, though might be in other ads	Probably inspired by the film One Million Years B.C. Successful sales numbers, despite not including images of any people, let alone women.	
1971	5 545 Skyrocket	Christian Marache	1	1	0	1	1	1	1	0	0 fireworks, leisure, celebration, spectators, social event	Marche did backglass	
1971	8 1555 Expressway	Christian Marache	1	1	0	1	1	1	1	1	0 transportation, travel, leisure, driving	Men and women driving. Woman leaning or holding man on back. Backglass as he works on car.	
1971	10 3300 Sea Ray, Mariner	Christian Marache	1	0	0	1	1	1	1	1	0 underwater, marine	only the man is armed with a harpoon gun, women presented from the front, while men presented from the back	woman unarmed
1972	2 3815 Fireball	Dave Christensen	1	0	0						demon, mythology, fantasy		
1972	4 2065 El Toro	Dick White	1	0	1						foreign, bull fight		Latino American
1972	8 2080 Little Joe	Christian Marache	1	1	0	1	0	1	1	0	0 marriage, romance, city, dice, gambling	not threatened, even if the author is wedding an ad...	
1972	10 7500 Space Time, Time 26	Christian Marache	1	0	0	1	0	0	0	0	0 outer space, science fiction	Similar artwork to Odds & Evens. This backglass has another woman and different color scheme. Women hanging onto the man.	
1973	3 5254 Monte Carlo (4P)	Dave Christensen	1	1	0	1	1	1	1	0	0 gambling, roulette, wealth, money	Similar artwork to monte carlo, but with one less woman and a different color scheme.	
1973	3 2570 Odds & Evens (1P)	Dave Christensen	1	1	0	1	0	0	1	0	0 gambling, roulette, wealth, money		
1973	7 4580 Night	Dick White	1	0	0						0 sports, fishing, outdoors, wildlife		
1973	10 2500 Hi-Locate	Dick White	1	0	0						0 playing cards, magic		
1973	11 4550 Circus (4P), Big Show	Dick White	1	0	0						0 circus, clown, amusement	Features pinball Men play, women watch, slingshot triangles near	participation, triangle
1974	2 4070 Champ	Christian Marache	1	1	0	1	0	0	1	0	0 sports, pinball, game	Hippers, too.	

Year	Movie/Production Title	Manufacturer/Artist(s)	Figure Present? Y=Female Present? F=Female Present?	Ppt of Color	Sexualized Attire	Player Interaction/Male Gaze	Agency	Passivity	Engagement	Fantastical	Themes	Observations	Keyword	
1974	2 1570 Twin Win	Bally	1	1	0	1	0	0	1	0	0	There is an X-rated version of bagglass where woman is topless and nipples are fully exposed.		
1974	4 2000 Sky Kings	Dick White	1	0	0	0	0	0	0	0	0	0		
1974	5 4325 Amigo	Dick White	1	1	1	0	0	0	1	0	0	0		
1974	7 1575 Delta Queen	Christian Marche	1	1	0	0	0	0	0	0	0	0	0	Images of passengers on the boat are too small to distinguish whether male or female.
1974	8 3075 Rogo	Dave Christensen	1	1	0	0	0	0	1	0	0	0	0	Figure appears unnoticeable
1974	11 1585 Bon Voyage	Bally	1	1	0	0	0	1	1	0	0	0	0	"insert coin here" belt buckle and visible nipples through shirt, plot has an arm around a stewardess
1974	12 2585 Boomerang	Christian Marche	1	0	1	0	0	0	0	0	0	0	0	same game as flicker with diff artwork
1975	1 1585 Flicker	Dick White	1	1	0	0	0	0	1	0	0	0	0	same game as flicker with diff artwork
1975	2 3085 Air Aces	Dave Christensen	1	1	0	0	0	0	0	0	0	0	0	woman showing affection to the man while he smokes a cigarette
1975	4 2085 Knockout	Dick White	1	0	0	0	0	0	0	0	0	0	0	Used date of manufacture
1975	5 30005 Wizard!	Dave Christensen	1	1	0	1	0	0	0	0	0	0	0	movie license "Tombay," rock and roll playing cards, cinema, film, movie, airplane, king kong parody
1975	10 2085 Hi Deal	Dick White	1	1	0	0	0	0	0	1	0	0	0	western, native americans, hunting
1975	11 7630 Bow and Arrow	Christian Marche	1	0	1	0	0	0	0	0	0	0	0	western, cowboy, mexican, latin american, native american, wagon
1976	1 5350 Flip Pop	Dick White	1	0	1	0	0	0	1	0	0	0	0	magician casting unknown spells upon female audience member in one plastic image, in another a woman is flirtating
1976	3 3086 Hobus Pokus	Christian Marche	1	1	0	1	0	0	1	0	0	0	0	Notes: NYC ban lifted April 1976 African American musicians. Women with visible nipples on upper left and right plastics sitting in a glent champagne(?) glass.
1976	4 7155 Old Chicago	Dave Christensen	1	1	1	1	0	0	1	0	0	0	0	Aff around the board and on the bagglass, women entertaining men as musician, woman with strongly all women have dark hair except two blonde women on the top apron seemingly added as an afterthought, hair
1976	6 4155 Aladdin's Castle	Bally	1	1	1	1	1	0	1	0	0	0	0	White washing
1976	6 16155 Captain Fantastic and Bally	Dave Christensen	1	0	1	1	0	1	1	0	0	0	0	Women hitting on men in the audience. Um, is that Hitler in the audience? Most characters have their hands on their hips asking player to "bump those bums" and "bump those bumpers" emphasizing breasts
1976	6 1655 Kick Off	Dick White	1	0	1	1	0	0	0	0	0	0	0	women are hiding and celebrating in front of a trophy winning man

Year	Month	Production Title	Manufacturer/Artist(s)	Figure Present? Y	Female Present? Y	Ppl of Color	Socialized Attire	Player Interacted/Male Gaze	Agency	Passivity	Engagement	Fantastical	Themes	Observations	Keyword
1976	9	1050 Quarterback	Dick White	1	1	1	1	1	0	0	0	0	sports, football, cheerleading, African American	Women in the audience, there is an African American football player on the backglass, and two cheerleaders	African American
1976	12	2325 Hung Giller	Dick White	1	1	0	1	1	1	0	0	0	sports, bang-gilding, beach	A game about freedom, colonial era white men, founding fathers, etc. No women or people of color.	
1976	7	6580 Freedom (EM), Freed Bally	Christian Marche	1	0	0	0	0	0	0	0	0	united states of america, patriotism	woman on backglass is a waitress, she is gazing out toward player while holding plate and saucer, another woman on bottom right is pouring coffee. Women serving men	patriotism
1977	3	11155 Night Rider	Paul Farris	1	1	0	1	1	1	0	0	0	trading, transportation, shipping, police, waitresses	women standing around for no apparent reason	
1977	6	14155 Evel Knievel	Paul Farris	1	1	0	1	1	0	0	0	0	stunts, sports	This is the game with a male figure that looks a lot like the Forz.... Happy Days and Grease were popular... going back to an earlier time when men and women's genders roles were very divided?	
1977	9	20230 Eight Ball	Paul Farris	1	1	0	1	1	1	0	0	0	sports, pool, billiards	Depiction of a native American on a red jersey (Chicago Black Hawks, Bobby Orr), but no actual native american people participating	Native American, Cultural Appropriation
1978	1	13750 Power Play	Dave Christensen	1	0	1	1	1	1	0	0	0	hockey, United States, Canada, celebrity, Native American stereotype	agency/passivity, reclining, but presumed to be doing the work of a spy	
1978	4	16430 Mata Hari	Dave Christensen	1	1	0	1	1	1	1	0	0	spy, historical	Another version of this game was produced as an EM with different backglass artwork, but its production number was low. Dark skinned blonde woman on playfield??	
1978	6	4885 Black Jack	Dick White	1	1	0	0	1	0	1	0	0	playing cards, gambling, game	VERY slumpy clothing on some of the girls, and some of the boys are pouring beer and misers because he is looking at the girl on the backglass, while the girl he is with looks crossly at him. STRONG example of men ogling	
1978	6	12820 Strike and Spares	Kevin O'Connor	1	1	0	1	1	1	1	0	0	bowling, game, sport	Woman has a dragon or lizard creature tied with a chain, seems to be in command of it.	
1978	8	10330 Lest World	Paul Farris	1	1	0	1	1	0	1	0	0	fantasy		
1978	10	10230 Six Million Dollar Man Bally	Dave Christensen	1	0	0	1	1	0	0	0	0	action, television, celebrity, license	targets ARE women with bunny ears, light up miss march, miss may, etc. collecting women	women as targets, women as objects
1978	12	18250 Playboy	Paul Farris	1	1	1	1	1	0	0	1	0	celebrity, license	visible nipples through clothing, but no en	African American, female!!!
1979	3	10340 Supersonic	Kevin O'Connor	1	1	0	0	1	0	0	0	0	historical, flight, travel, aviation	science fiction, television, film, celebrity, license, African American, empowerment	
1979	4	16842 Star Trek	Kevin O'Connor	1	1	1	1	1	0	1	0	0			

Year	Month	Production Title	Manufacturer/Artist(s)	Figure Present? Y= Female Present? N= Male Present?	Pop of Color	Sexualized Attire	Player Interacted	Male Gaze	Agency	Passivity	Engagement	Fantastical	Themes	Observations	Keyword
1979	6	17000 Kiss	Bally Kevin O'Connor	1	1	0	1	1	0	0	0	0	music, rock and roll, rock, band, celebrity, license	women with kiss makeup on plastics, dancing? woman chained and being threatened by a man in attacking. Does in court when lion is looking at her. She is unarmed, when no longer chained.	Watched by UDN, unarmed
1979	6	9120 Paragon	Bally Paul Paris	1	1	0	1	1	1	0	1	0	fantasy	First identified as a team) African American athletes	African American
1979	9	14550 Harlem Gidgetroned	Bally Greg Feres	1	0	1	1	1	0	1	0	0	sports, basketball, celebrity, license, African American		
1979	11	7350 Dolly Parton	Bally Dave Christensen	1	0	1	1	1	0	1	0	0	music, celebrity, license		
1979	12	6400 Future Spa	Bally Paul Paris, Dave Christensen	1	1	0	1	1	1	1	1	0	science fiction, fantasy, beach, bathing suit, teenagers, youth, cycling, music		
1970	2	885 Mini Cycle	Gottlieb Art Stenholm	1	1	0	1	1	0	1	0	0		women are spectators, looking for autographs on back of shirts, performing houses on plastics	Sports, participation
1970	2	1140 Prolo	Gottlieb Art Stenholm	1	1	0	1	1	0	1	0	0	Polo, sports		
1970	9	1450 Scuba	Gottlieb Art Stenholm	1	1	0	1	0	1	1	1	1	Underwater, marine, mermaid	backglasses has two women on ocean floor, one w/ hands in a treasure chest, and one grabbing the ankle of a male diver who is chasing after a mermaid both men are playing plastics and playing on the plastic	permissive smile
1970	10	2025 Aquarius	Gottlieb Art Stenholm	1	1	0	1	0	0	1	0	0	zodiac, astrology, fantasy	1 man, 3 women on backglasses	Attire neutral
1970	11	1050 Snow Queen (4P, 5)	Gottlieb Art Stenholm	1	1	0	0	1	0	1	0	0	sports, skating, winter	shooting balls at the player, very interactive. Just standing there looking in other images	
1970	3	3550 Flip-a-Card (Replay v)	Gottlieb Art Stenholm	1	1	0	0	0	0	1	0	0	college life (ipdb), playing cards, young people, youth activities, leisure	No men. Backglasses has women on them, listening, playing music and cards. Two instances of women on the phone, listening in on another's conversation. Leisure time	
1970	5	2550 Crescendo, Groovy	Gottlieb Art Stenholm	1	1	0	1	1	0	1	0	0	music, club, youth activities, mod, couples, date, band, flower power, shared activities	Psychedelic (Italy) not included in total	
1970	6	2910 Baseball (Replay ver)	Gottlieb Art Stenholm	1	0	0	0	1	0	1	0	0	baseball, sports, athletic	Similar game, dimension has different backglasses and only 450 girls (not included in survey). Theme makes no sense-- what is it? Why is their an image of a man and woman at the center, the man grinning at the close-up image of the woman?	
1971	2	2200 2001	Gottlieb Gordon Morrison	1	1	0	0	0	0	0	1	0	future, science fiction	Star Trek (Italy) not included in total. Total giant robot holding young girl in skinny outfit, female astronaut, rockets, etc.	permissive smile
1971	3	500 Astro	Gottlieb Gordon Morrison	1	1	0	1	0	0	0	1	1	space, outerspace, robot, astronaut, rocket, alien		
1971	4	1125 Now	Gottlieb Gordon Morrison	1	1	0	1	1	0	0	0	0	Psychedelic	Diff backglass image than extra lining (Italy) women in crowd on plastics at the top only	
1971	5	3075 Playball, Home Run	Gottlieb Gordon Morrison	1	1	0	0	0	0	0	1	0	sports, baseball		

Year	Month	Production Code Title	Manufacturer/Artist(s)	Figure Present? Y=1	Female Present? Y=1	Poi of Color	Sexualized Attire	Player Interacted	Male Gaze	Agency	Passivity	Engagement	Fantastical	Themes	Observations	Keyword
1971	6	2200 4 Square	Gottlieb	1	1	1	0	1	0	0	1	0	0	0	Psychedic, party, music, dancing	
1971	7	1550 Roller Coaster (2P)	Gordon Morrison	1	1	1	0	1	1	0	0	0	0	0	roller coaster, amusement park, carnival	
1971	11	3425 Drop-a-Card Pop-A-Gottlieb	Gordon Morrison	1	1	1	0	1	0	1	0	0	0	0	playing cards, royally, king, queen, etc.	Card King (Italy) not included in prod number, she is playing with others, and I consider this agency, but it is interesting because she is interacting with the others in the same manner. Pop-a-card prostitute in dd west themed game. interestingly, Italian export "Texas Ranger" does not include image of the female in its alternate baedglasses, Native American on playfield.
1971	9	Sheriff (4P), Laramie	Gottlieb	1	1	1	1	1	0	1	0	0	0	0	Western, cowboy, sabon, girl	Native American
1972	3	3170 Flying Carpet	Gottlieb	1	1	1	0	1	0	1	0	0	0	0	foreign, middle eastern	White Washing, Cultural Appropriation
1972	12	9650 Jungle (4P), Wild Life	Gottlieb	1	1	1	0	1	0	0	1	1	0	0	Jungle, adventure, wild, nature	
1972	1	5550 Orbit (4P), Outer Sp	Gottlieb	1	1	1	0	0	0	0	0	0	0	0	outer space, science fiction	Space Orbit game (removed from list) made for export to Italy shows slightly different art, not as distressed!
1972	5	7325 King Book (4P), King	Gordon Morrison	1	1	1	0	1	0	1	0	0	0	0	playing cards, royally, king, music, band	
1972	8	4375 Grand Slim, World	Gottlieb	1	1	1	0	1	0	1	0	0	0	0	sports, baseball	participation as cheerleader, not football player
1973	2	4500 Pro Football (1P)	Gottlieb	1	1	1	0	1	0	0	1	0	0	0	sports, football, cheerleading	slightly different artwork (than Jack-in-the-Box)
1973	8	4975 Jumping Jack (2P)	Gottlieb	1	1	1	0	1	0	0	0	0	0	0	down, toy, amusement	
1973	12	800 Pro Pool	Gottlieb	1	1	1	0	0	0	0	0	0	0	0	sports, pool, billiards	Big Shot and Hot Shot similar, but diff baedglasses. woman's gaze in Gordon Morrison artwork seems to be on other makes in the scene, (Play Pool 1972, Italy not included in prod total)
1973	1	825 Jungle King	Gottlieb	1	1	1	0	0	0	0	0	0	0	0	sports, pool, billiards	Italy not included in prod total
1973	12	11900 Hot Shot (4P), Big Sh	Gottlieb	1	1	1	0	1	0	1	0	0	0	0	sports, games, pool, billiards	compare to jungle and wild life, which have a female in the image
1973	5	8300 Jack-in-the-Box (4P)	Gottlieb	1	1	1	0	1	0	0	0	0	0	0	sports, games, pool, billiards	Pro Pool similar, but diff jumping jack similar, with slight differences in baedglasses artwork
1973	8	5065 King Pin, Pin-Up	Gottlieb	1	1	1	0	1	0	1	0	0	0	0	sports, bowling, games	Ten-Up (Italy) not included in prod number. artwork shows the figure that scored this strike (she does play, not just standing there holding a ball as per usual). This might make up for the fact that no women appear on the playfield. Ten-Up has one less figure than the other games

Year	Moai Production Tool Title	Manufacturer/Artist(s)	Figure Present? Y	Female Present? Y	Tip of Cobb	Sexualized Attire	Player Interaction/Male Gaze	Agency	Passivity	Engagement	Fantastical	Themes	Observations	Keyword
1974	4 11480 Big Indian (AP), Big G Gattieb	Gordon Morrison	1	0	1								According to one text, Native American women are offended by a prototype name and it was changed, stalling production for three months	Native American
1974	8 9075 Maggoton (4P), Dui Gattieb	Gordon Morrison	0	0	0									
1974	9 4580 Top Card, Royal Pair Gattieb	Gordon Morrison	1	0	0								4 player has only one figure on bagglass, but 2 wear alien, demons???	
1974	12 6570 Far Out (2P), Out of Gattieb	Gordon Morrison	1	1	0								Sky Dive (Italy) not included in total number	
1974	5 4550 Sky Jump, Free Fall Gattieb	Gordon Morrison	1	0	0								woman is generic queen	
1974	4 8514 Captain Card, High Gattieb	Gordon Morrison	1	0	0								card symbol	
1975	1 2225 Atlantis Gattieb	Gordon Morrison	1	0	0								people of atlantis similarly dressed	Attire neutral
1975	7 10705 Fast Draw (4P), Ouh Gattieb	Gordon Morrison	1	1	1								Native American subterranean, knowing use for cowboy to shoot	Native American
1975	8 2550 Spin Ball Gattieb	Gordon Morrison	1	0	0								0 sports, racing, race car	
1975	10 7925 300 (4P) Gattieb	Gordon Morrison	1	0	0								similar bagglass to top score, minus one figure	
1975	10 3200 Top Score (2P) Gattieb	Gordon Morrison	1	1	0								All of the bowlers on the playfield and bagglass are men!!! similar to 300 but has an additional figure, men play, women keeps score and watch	participation
1975	11 2825 Abra Ca Dabra Gattieb	Gordon Morrison	1	0	0								female figure standing next to a creature, bath blue as to suggest otherworldiness. She does not seem to be lit *** when the lights are on, only the wizard is	
1975	3 10030 Super Soccer (4P), S Gattieb	Gordon Morrison	1	0	0								Lucky Strike (Italy) not included in totals	
1975	4 3550 El Dorado, Gold Strin Gattieb	Gordon Morrison	1	0	0								Shows a woman wearing a bank shot, compares to sure shot in which the ball is flying out of control!!! Sport Pool (Italy) not included	
1976	3 730 Bank Shot Gattieb	Gordon Morrison	1	1	0								spirit of 76 is a 4P so it is missing some bagglass artwork of the rocketship, otherwise the same	patritism
1976	3 4425 Pioneer (2P), Sprint Gattieb	Gordon Morrison	1	0	0								Art is redrawn and makes woman look incompetent	
1976	3 3700 Sure Shot Gattieb	Gordon Morrison	1	0	0								TARGETS ARE SUREING WOMEN!!! (surfchamp) woman surfing in the foreground of the bagglass, surfer has additional space for another male surfer on bagglass	women as targets
1976	10 3770 Surf Champ (4P), Sur Gattieb	Gordon Morrison	1	1	0								man and women playing tennis, woman chasing after a volley, practices after a volley, women in opposing positions	women as targets
1976	10 2900 Volley Gattieb	Gordon Morrison	1	1	0								0 sports, tennis	

Year	Moat/Production roll Title	Manufacturer/Artist(s)	Figure Present? Y/N	Female Present?	Tip of Cobar	Sexualized Attire	Player Interaction/Male Gaze	Agency	Passivity	Engagement	Fantastical	Themes	Observations	Keyword
1976	11 7285 Target Alpha (4P)	Gottlieb		1	1	0	0	0	0	1	0	0	men are aimed with women are not. One almost appears to be recelling from a weapon being lobbed nearby	women unarmed
1976	4 15500 Royal Flush (4P), Cal	Gordon Morrison Gordon Morrison		1	1	0	0	0	0	1	0	0	woman appears to be a ship member, perhaps even one with authority. High seas made for Italy not included in prod number	
1976	6 4800 Ship Ahoy, Buccaneers	Gottlieb		1	1	0	0	0	0	0	0	0	woman bearing bow and arrow amazonian looking	
1977	2 2525 Solar City (2P)	Gottlieb		1	1	0	0	0	0	0	0	0	woman riding a bucking horse confidently, not wearing chaps or spurs	
1977	3 11385 Bronco (6P), Mustang	Gottlieb		1	1	0	1	0	1	0	1	0	Perhaps a depiction of an African American in sports	African American?
1977	5 2200 Big Hit	Gottlieb		1	0	1							one woman seems to be experimenting on another inside a chamber	African American?
1977	8 1600 Centigrade 37	Gottlieb		1	1	0	0	0	1	1	0	0	Native American	Native American
1977	8 1530 Golden Arrow	Gottlieb		1	0	1							Similar to Vulcan, which has a fire god on glass instead of woman, this is the 2P	
1977	8 6113 Jet Spin (4P), Super	Gordon Morrison Gordon Morrison		1	1	0	0	1	0	0	0	0	Similar to Fire Queen, which has a woman in a bikini instead of a man, this is the 4P	
1977	10 970 Fire Queen (2P)	Gottlieb		1	1	0	0	0	1	0	0	1	Similar to Vulcan, which has a fire god on glass instead of woman, this is the 2P	
1977	10 3575 Vulcan (4P)	Gottlieb		1	0	0							Similar to Fire Queen, which has a woman in a bikini instead of a man, this is the 4P	
1977	12 1025 Gridiron (2P)	Gottlieb		1	1	0	0	0	1	0	0	0	similar to pro-football with diff artwork and some adjustments	participation
1977	12 590 Pyramid (2P)	Gottlieb		1	1	0	0	1	0	1	0	0	similar artwork to Pyramid.....even though Cleopatra is not white, she appears white in these images	White Washing, Cultural Appropriation
1977	1 3585 Jacks Open, Lucky H	Gottlieb		1	1	0	0	0	1	0	0	0	4P age fantasy game, woman might be in danger since she is near a drop. Lucky Card (Italy) not included in prod total	
1977	11 7300 Cleopatra (4P, SS)	Gottlieb		1	1	0	0	1	0	1	0	0	similar artwork to pyramid. A conversion kit of this artwork was made for Play Pool, with a topless cleopatra and a man kicking his chips during a hand compare to a ball. The instead of lion is not as ferocious	White Washing, Cultural Appropriation
1977	2 650 Team One	Gottlieb		1	0	0							women may be in the audience, but too small to tell. Kicker (Italy), not included in prod number	
1977	5 8395 Jungle Queen (4P),	Gottlieb		1	1	0	0	0	1	0	0	0	woman is part of natural environment, confident pose, appears to have a natural grace. Princess baggies artwork reversed, otherwise the same	

Year	Most Production Job Title	Manufacturer/Artist(s)	Figure Present? (1)	Female Present? (1)	Fig of Color	Sexualized Attire	Player Interact (1)	Male Size	Agency	Proximity	Engagement	Fantastical	Themes	Observations	Keyword
1978	2	12865 Simbad (4P)												"Simbad and the Eye of the Tiger" movie license tie-in or inspired; two games with related names but diff artwork. SIBBAD IS WHITE? One woman passively standing there, while another is an evil sorceress attacking Simbad	White Washing
1978	3	0725 Strange World												Compare with Simbad, which has the same playfield but different backgrounds	Active neutral
1978	6	730 Eye of the Tiger (2P)												Third kind implies non human, so no gender distinction	White Washing
1978	6	10100 Joker Poker (4P)												Woman dressed on background, in a setting where playfield... just because?	
1978	8	10420 Close Encounters (4)												position character wide-eyed as he looks at female in bikini, Poseidon (Italy) not included in prod number	
1978	10	7057 Dragon (4P)												No man - woman and horse. Artwork on each machine slightly different with different pose becoming same concept	
1978	11	8300 Charles Angels (4P)												Robot ("male"). Women are holding pool sticks, but not actually shooting, participation	
1978	4	645 Neptune Hit the Die												although the concept of a game implies middle eastern, characters are whitewashed from post troubling	White Washing, Cultural Appropriation
1979	2	9165 Solar Ride (4P)												humanoid women, but potentially alien	Native American, Unnamed
1979	6	7200 Pinball Pool (4P)												See astro backgrounds (like a male version of it on the right side?). Slightly different backgrounds between EM and SS versions	
1979	8	6800 Genie (4P)												Figure has strange skin color, is it a monkey? Implications for race?	Participation, white washing
1979	8	6643 Tazem (4P)												Women as dancers, not playing music	
1979	10	6150 Incredible Hulk (4P)												diff backgrounds than Klondike. Same playfield	Native American
1979	12	7412 Buck Rogers (4P)												diff backgrounds than gold rush. Same playfield	
1979	4	10114 Count Down (4P), SH												strange blue skin, woman peering in an S-ship, man reaching for her in addition to many eyes on her	
1970	4	465 Jive Time, Rock 'N' Roll												western, camping, Native American	
1971	4	6303 Gold Rush, Jackpot												western, camping	
1971	8	4032 Klondike, Yukon												astrology, mythology, fantasy	
1971	8	704 Zodiac, Planets													

Year	Most Production Title	Manufacturer/Artist(s)	Figure Present?1	Female Present?2	Plur of Color	Sexualized Attire	Player Interact?3	Male Size	Agency	Positivity	Engagement	Fantastical	Themes	Observations	Keyword
1972	1 5455 Stardust (4P)	Williams	1	1	0	0	1	0	1	0	0	0	0	a different color emphasizes chest, but what emphasizes it is that her arms are out of the way whereas for the male figures, they can be in any pose	
1972	2 2555 Olympic Hockey (2P)	Christian Marche	1	0	0	0	0	0	0	0	0	0	0	the woman holding the reins of the horse appears to be looking at the camera and is likely the owner of the horse or the winner of the bet or both	
1972	2 2100 Winner (2P)	Williams	1	1	0	0	1	0	0	1	0	0	0	Compare to Spanish eyes, different color scheme and bumper placement	White washing, cultural appropriation
1972	3 875 Grandd	Williams	1	1	0	0	1	0	0	1	0	0	0	More objects (fans, guitars) as signifiers of culture	White washing, cultural appropriation
1972	5 3905 Spanish Eyes	Williams	1	1	0	0	1	0	0	1	0	0	0	a man kisses a woman's hand-not ogling	
1972	8 630 Honey (4P)	Williams	1	1	0	0	1	0	0	1	0	0	0	women of color on beagles, holding instrument (microphone). On playfield, women just dancers	African American (woman)
1972	12 5660 Fan-Tas-Tic (4P)	Williams	1	1	0	0	1	0	0	1	0	0	0	the playfield has central american or latin american stereotypes? more objects (playing drums, beagles, his green skit)	Central American, Latin American, White Washing
1972	9 4930 Super Star, Big Star	Williams	1	1	0	0	1	0	0	1	0	0	0	women playing music and dancing while an emperor or other important figure watches beside his guard with a spear	White Washing
1973	2 3450 Travel Time, Summ	Williams	1	1	0	0	1	0	0	1	0	0	0	are young women preying on older men?	White Washing
1973	9 10960 Duffing (3P), Jubilee	Williams	1	1	0	0	1	0	0	1	0	0	0	men's upright, spring? down in interesting action poses	
1973	1 9754 Swinger (2P), Fan-Fa	Williams	1	1	0	0	1	0	0	1	0	0	0	lucky ace has king and queen, dealer's choice just the queen	
1973	5 5275 Topic Fun, Galtres	Williams	1	1	0	0	1	0	0	1	0	0	0	Like Teddy Bear Patriarchy, men's last frontier in space!	
1974	1 7053 OXO (4P)	Williams	1	1	0	0	1	0	0	1	0	0	0	lucky ace has king and queen, dealer's choice just the queen	
1974	6 8850 Dealers Choice (4P)	Williams	1	1	0	0	0	0	0	0	0	0	0	lucky ace has king and queen, dealer's choice just the queen	
1974	7 3683 SkyLab, SpaceLab	Williams	1	0	0	0	0	0	0	0	0	0	0	Patriarchy, men's last frontier in space!	
1974	11 2805 LuckyAce	Williams	1	1	0	0	0	0	0	0	0	0	0	lucky ace has king and queen, dealer's choice just the queen	
1974	10 7875 Strato-Fite (4P), Sun	Williams	0	0	0	0	0	0	0	0	0	0	0	Patriarchy, men's last frontier in space!	
1974	2 4983 Star Action, Triple A	Williams	1	1	0	0	1	0	0	0	0	0	0	Cultural Appropriation	Cultural Appropriation
1975	3 6950 Star Foot (4P)	Williams	1	1	0	0	1	0	0	1	0	0	0	a woman seems to be leaning at the male player who is taking his turn, while a bartender or waiter points to the group, women on the floor being toward	

Year	Mined Production Title	Manufacturer/Artist(s)	Figure Present? Y=Female Present? N=Male Present?	Ppt of Color	Sexualized Attire	Player Interaction/Male Gaze	Agency	Passivity	Engagement	Fantastical	Themes	Observations	Keyword	
1977	10	303 Wild Card	Williams	Christian Marclite	1	1	1	1	0	0	0	western, playing cards, games, gambling?	women standing beside men, potentially helping one of them cheat at playing cards? Sexualized clothing of saloon girls, image of woman in painting	
1977	11	6203 Hot Tip (4P)	Williams	Christian Marclite	1	1	0	0	1	0	0	regular plastic rear boxes of women and horses, but not interacting very much with player	triangle, participation	
1978	3	4324 Luck's Seven (4P)	Williams	Christian Marclite	1	1	1	1	0	0	0	Gambling, entertainment, show girls	is his participation?	
1978	5	6253 World Cup (4P)	Williams	Christian Marclite	1	0	0	0	0	0	0	sports, celebrity, soccer	despite having flags from many nations on the bagglass, no people of color to be found	
1978	6	2502 Contact (4P)	Williams	Christian Marclite	1	0	0	0	0	0	0	science fiction, alien, outer space	wildplay?	
1978	6	8686 Disco Fever (4P)	Williams	Christian Marclite	1	1	0	1	1	0	0	science fiction, alien, outer space		
1978	12	6198 Phoenix (4P)	Williams	Constantino Mitchell, Jean	1	1	1	1	1	0	0	fantasy	Man or bird? sitting before bird man, are they casting spells?	
1978	12	1501 Pokerno (4P)	Williams	Constantino Mitchell, Jean	1	1	1	1	1	0	1	playing cards	with women's legs? Creepy	
1979	1	19505 Flash (4P)	Williams	Constantino Mitchell, Jean	1	1	0	0	0	0	0	fantasy		
1979	5	5503 Stella Wars	Williams	Constantino Mitchell, Jean	0	0	0	0	0	0	0	science fiction, alien	man throwing lightning bolts, women there... why?	
1979	8	7260 Trizone (4P)	Williams	Christian Marclite	1	1	1	1	0	0	0	science fiction, alien	cut out holes in women's shirts	
1979	9	8875 Time Warp (4P)	Williams	Constantino Mitchell, Jean	1	1	0	0	0	0	0	historical, science fiction	image of the men is a passive as she is a painting!	
1979	12	14000 Gogzar (4P)	Williams	Constantino Mitchell, Jean	1	1	0	0	1	0	0	fantasy	woman unconscious, snake and devil threatening. Who is holding her? She is limp in a man's arms on bagglass. On playfield, woman is standing beside or behind a man with a bagglass. Opposing of against the devil or demon "Gogzar"	woman unarmed
1979	12	4500 Laser Ball (4P)	Williams	Constantino Mitchell, Jean	1	1	1	1	0	0	0	fantasy, game		
1979	12	1040695			888	148	28	112	76	24	17			
					% of 193	76.7%	14.5%	43.0%	39.4%	12.4%	8.8%			
					Total Produced	998737	191946	623428	497054	329051	119812			
					% of TOTAL prod	76.5%	18.4%	47.8%	31.6%	11.5%	7.5%			
					Observations: Over 1 million machines were produced from 1976-1979.									
					Of the machines w/ artwork with women, what percentage of these feat. women in sexualized attire?									

9.8% BELOW: TOTAL ARTWORK PER YR

15.0%

52.6%

41.3%

23.9%

62.4%

79.0%

Figures

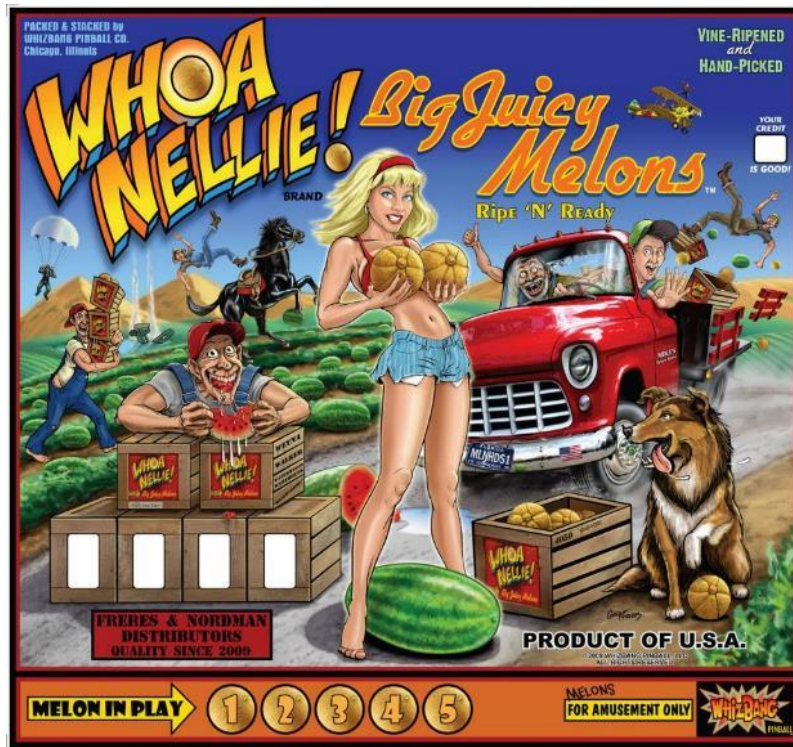


Figure 1. *Whoa Nellie! Big Juicy Melons* Pinball Machine. Artwork by Greg Freres. WhizBang Pinball, 2011. Image from the *Internet Pinball Database*, accessed May 7, 2016, <http://www.ipdb.org/showpic.pl?id=5863&picno=64765>.

This first image depicts a central female figure, “Melony,” in highly sexualized attire (exposing cleavage, midriff, and upper thigh) holding two round melons against her chest. The character of Melony gazes outward at the player. The entire cast of male characters (and animals) surrounding Melony have their gaze affixed upon her. One man reaches out towards her, two men appear “bug-eyed,” and a man and a dog salivate as they stare. The chaos surrounding her is staged as if her attractiveness were the cause of the upheaval. The truck careening towards her also introduces an element of danger to heighten the tension in the scene.



Figure 2. *Whoa Nellie! Big Juicy Melons* Pinball Machine. Artwork by Greg Freres. Stern Pinball, 2015. Promotional photograph courtesy of Stern Pinball, Inc. Image from the *Internet Pinball Database*, accessed May 7, 2016, <http://www.ipdb.org/showpic.pl?id=6252&picno=64830>.

Four images of women exhibit obvious innuendo by holding melons up to their chest. The female figures in the scene look outward, toward the viewer. In the middle of the playfield, the character “Melony” is lying down in a passive pose in a pile of watermelons. Several male figures cast their eyes upon the female figures in the artwork. In addition to the imagery, text plays a large role in the interpretation of the artwork through character speech bubbles. Although the interplay between text and image is important in discerning meaning (however overt this example may be), text analysis on playfield artwork it is outside the scope of this study.



Figure 3. *Whiffle* Pinball Game manufactured by Automatic Industries, 1931. From The Strong National Museum of Play ICHEG Collection. Accessed April 14, 2016. Image courtesy of The Strong National Museum of Play.

Pins sticking out of the play surface act as obstacles and act to hold the ball in certain areas of the playfield.



Figure 4. *Contact Senior* Pinball Game manufactured by Pacific Amusement Manufacturing Company, 1933. From The Strong National Museum of Play ICHEG Collection. Accessed April 14, 2016. Image courtesy of The Strong National Museum of Play.

Pins sticking out of the play surface act as obstacles and act to hold the ball in certain areas of the playfield.



Figure 5. *Midget Hi-Ball* Pinball Game manufactured by Peo Manufacturing, Rochester, NY, 1932. From The Strong National Museum of Play ICHEG Collection. Accessed April 14, 2016. Image retrieved from <http://www.museumofplay.org/online-collections/22/67/114.2940>.

Pins sticking out of the play surface act as obstacles that affect the action of the ball while on the playfield.



Figure 6. *Bingo* Pinball Game manufactured by Bingo Novelty Manufacturing Company, Chicago, IL, 1931. From The Strong National Museum of Play ICHEG Collection. Accessed April 14, 2016. Image retrieved from <http://www.museumofplay.org/online-collections/22/67/114.6178>. Image edited by author for clarity (adjusted orientation and values).

The title contains the visual element of a shooting star against the green background of the playfield.



Figure 7. *Baffle Ball* Pinball Machine manufactured by D. Gottlieb & Co., 1931. Accessed April 15, 2016, <http://www.retrogames.cl/imagenes/flippers/baffball1.jpg>.

The geometric shape of a diamond and green background is visually similar to a baseball diamond. Baseball was a popular theme in pinball, particularly between the 1930s and 1950s.



Figure 8. *Ballyhoo* Pinball Machine. Manufactured by Bally Manufacturing Corporation, 1932. Image courtesy of Raphael Lankar, from the *Internet Pinball Database*, accessed May 7, 2016, <http://www.ipdb.org/showpic.pl?id=4817&picno=14367>.

The colorful diamond pattern on the *Ballyhoo* playfield was inspired by a magazine cover from a publication of the same title.



Figure 9. *Humpty Dumpty Marble Game*. Manufactured by W.S. Reed Toy Company, USA, 1896. From The Strong National Museum of Play Collection. Accessed April 14, 2016. Image retrieved from <http://www.museumofplay.org/online-collections/3/49/107.4116>. Image straightened by author.

This child's toy marble game has a title and imagery based on the familiar nursery rhyme *Humpty Dumpty*. The trend to reuse fictional characters from popular children's stories was a precursor to the licensed toys and games we see today. This toy features a shooting lane, scoring holes, and a "drain" to catch balls that miss their mark.

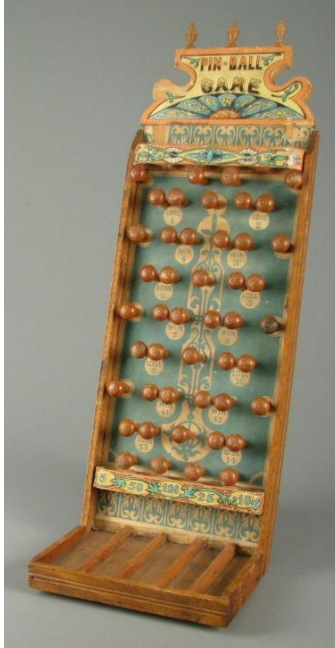


Figure 10. *Pin-Ball Game* marble game. Unknown manufacturer, ca. 1900. From The Strong National Museum of Play Collection. Accessed April 14, 2016. Image retrieved from <http://www.museumofplay.org/online-collections/3/49/107.4167>.

This vertical *Pin-Ball Game* uses decorative elements in the style of art nouveau popular in the late nineteenth and early twentieth centuries. Players dropped marbles into the top of the board and manually retrieved them from the bottom container.



Figure 11. *Pinball Game*. Unknown manufacturer, ca. 1930. From The Strong National Museum of Play Collection. Accessed April 14, 2016. Image retrieved from <http://www.museumofplay.org/online-collections/3/49/107.4214>.

This pinball game has a color background image of cartoon-style baseball players. This particular game does not appear to be American-made, judging from the players' uniforms that read "Tokyo" across the chest. Nonetheless, baseball was a popular subject in toys and games during the 1930s in America as well.

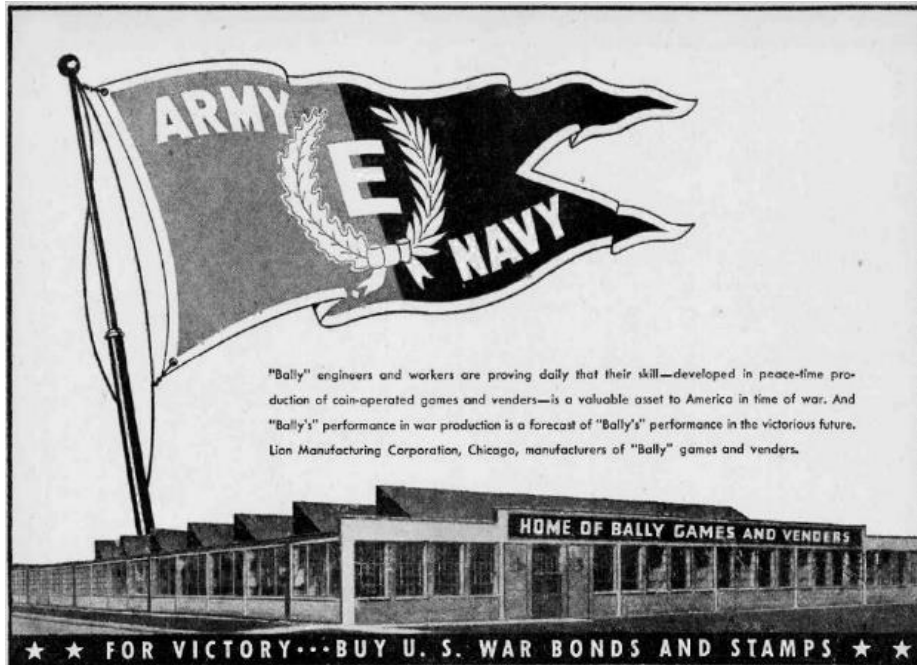


Figure 12. Detail of Bally War Bonds and Stamps advertisement, as seen on page 78 of *Billboard* (January 22, 1944), accessed April 16, 2016, <http://www.americanradiohistory.com/Archive-Billboard/40s/1944/Billboard-1944-01-22.pdf>, 78. Image cropped by author.

According to The Strong National Museum of Play's *Pinball Timeline*, located online through the Google Cultural Institute, major pinball manufacturers halted production and converted their assembly lines to the production of war materials. This shift was as necessary as it was patriotic, since wartime rationing of metal, rubber, and fuel crippled pinball production. Companies that survived this transition from peacetime, to wartime, and back again, used their production lines for the war effort and released artwork conversion kits that re-themed old machines to make them appear new. These themes often contained images of war machines, including tanks, planes, and battleships. Few pinball companies continued to produce machines during wartime, and production numbers were low.

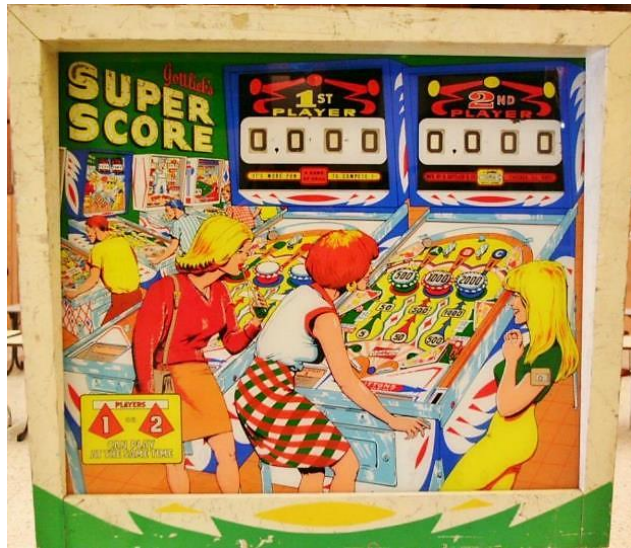


Figure 13. *Super Score* backglass. Artwork by Art Stenholm. Manufactured by D. Gottlieb & Co., 1967. Image from the *Internet Pinball Database*, accessed May 7, 2016, <http://www.ipdb.org/showpic.pl?id=2441&picno=40160>. Image adjusted by author for brightness, color, and sharpness.

While most artwork depicting women go to great efforts to depict them from the front, the backglass artwork of *Super Score* depicts women from other angles as they participate in a game of pinball. The actions of the player and the spectator superseded the display of the body in this way, however, capturing images of women playing pinball was another way of admiring their hip movements and backsides. The cohort of female figures, depicted as fashionable youth enjoying some leisure time, are drawn more prominently in the scene than the male players in the background.

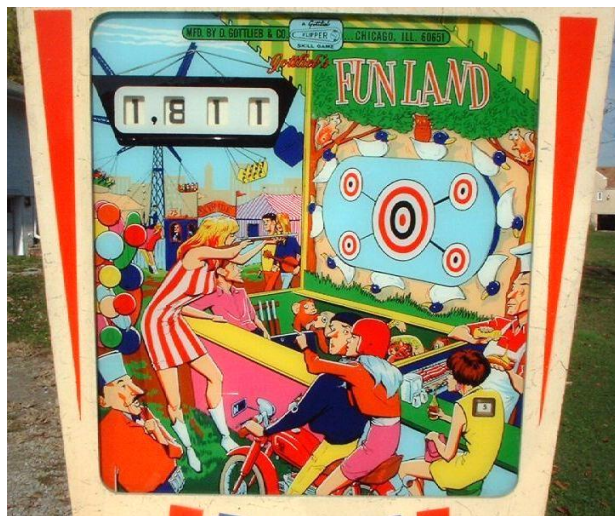


Figure 14. *Fun Land* backglass. Artwork by Art Stenholm. Manufactured by D. Gottlieb & Co., 1968. Image from the *Internet Pinball Database*, accessed May 7, 2016, <http://www.ipdb.org/showpic.pl?id=973&picno=29680>. Image adjusted for brightness by author.

This image contains the scene at a carnival or amusement park. The visitors are fashionable young people, both men and women. Women are depicted with agency. They dictate much of the action in this image, from the woman playing the shooting game, to the woman on the bike giving directions, to the woman sitting at the hot dog venter counter awaiting a meal. The bob hairstyle, white boots, and shift dresses are consistent with 1960s youth fashion and the androgynous look popular at the time. The male figures look at the female figures in a way that suggests interaction without objectification.



Figure 15. Detail of *Flip a Card* backglass. Artwork by Art Stenholm. Manufactured by D. Gottlieb & Co., 1970. Image from *the Internet Pinball Database*, courtesy of Vic Camp, accessed May 7, 2016, <http://www.ipdb.org/showpic.pl?id=890&picno=12614>. Image cropped and adjusted for brightness by author.

Flip a Card is an unusual example of pinball artwork from the 1970s in that it focuses on the leisure time of women, rather than pastimes from this era associated with men. Two young women, possibly college roommates in a dorm, relax in their room. One plays music while her hair sits in curlers while the other tosses playing cards into a bucket. The playfield (not pictured) also depicts women playing music and listening holding up a phone receiver so that both can listen. These relaxed, casual scenes of female socialization are a refreshing counterpoint to images of women preening and presenting themselves to attract male attention.

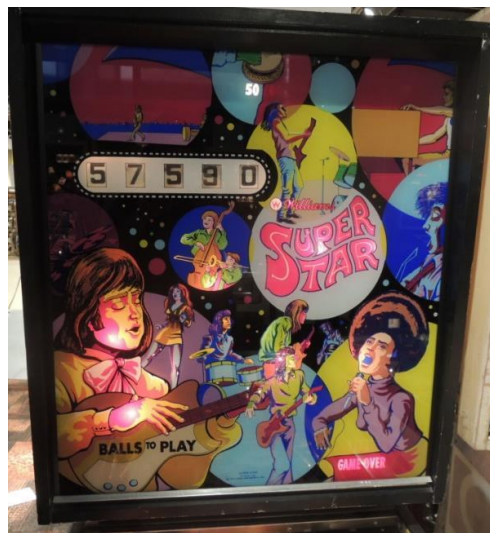


Figure 16. Detail of *Super Star* pinball machine backbox. Artwork by Christian Marche. Manufactured by Williams Electronics, 1972. Accessed April 14, 2016. Image retrieved from <https://pinside.com/pinball/archive/super-star/scores>. Image cropped by author.

The backglass artwork of *Super Star* reflects the diversity of the music industry in the 1960s and 70s, a diversity lacking from most pinball artwork at this time. The inclusion of African American women in pinball artwork is quite rare, only appearing on three machines from the era. It also shows several male figures with long hair when most artwork depicted men with short hair. As a gender signifier, most pinball artwork from the 1970s uses long hair to code the figure as appearing feminine.

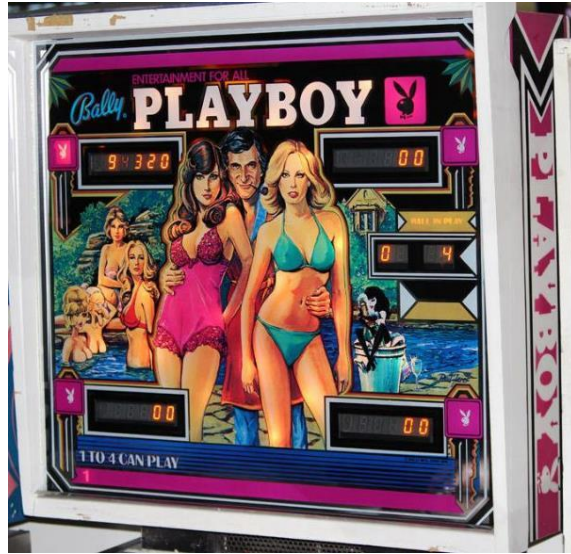


Figure 17. *Playboy* Pinball Machine. Artwork by Paul Faris. Manufactured by Bally Manufacturing Corporation, 1978. Image from the *Internet Pinball Database*, courtesy of Don Lee, accessed April 16, 2016, <http://www.ipdb.org/showpic.pl?id=1823&picno=64321>.

The *Playboy* pinball machine backglass and playfield (pictured in figures 21 through 23) show women in highly sexualized attire, including bathing suits and lingerie, in addition to women that appear completely nude. Almost every female character gazes at the viewer as a form of player interaction. The women on the backglass, whose likenesses are based on real people, stand passively in front of the only male figure in the image. The male figure has one hand on each of the women's waists, as if claiming them as his own.



Figure 18. *Star Trek*. Artwork by Kevin O'Connor. Manufactured by Bally Manufacturing Corporation, 1978. Image from the *Internet Pinball Database*, courtesy of Jean-Pierre Renault, accessed April 17, 2016, <http://www.ipdb.org/showpic.pl?id=2355&picno=37064>.

This image is from a licensed television series, *Star Trek*. Its depiction of its female character, Lieutenant Uhura, reflects the treatment of this character in the television series. Five crew members of the Starship Enterprise traverse what appears to be a foreign planet. All figures are armed, including Uhura. This image is unusual in pinball artwork for its inclusion of a female African American figure, of which there are only two instances from the entire survey sample. It is also unusual because she is armed and poised for battle with as much agency as her male companions.



Figure 19. *Stampede* Pinball Machine backglass. Artwork by Christian Marche. Manufactured by Stern Electronics, 1977. Image from *Fab.com*, accessed April 17, 2016, <http://fab.com/product/stampede-pinball-machine-326141/>. Image cropped by author.

This image of the *Stampede* backglass is a clear example of the female figure gazing outward at the viewer as a form of player interaction. The sleeveless top she is wearing appears as if painted onto her body, emphasizing the shape of her breasts.



Figure 20. Detail of *Stampede* Pinball Machine lower playfield. Artwork by Christian Marche. Manufactured by Stern Electronics, 1977. Image from the *Internet Pinball Database*, accessed April 17, 2016, <http://www.ipdb.org/showpic.pl?id=5232&picno=25124>. Brightness adjusted for clarity by author.

This detail of the *Stampede* playfield is a clear example player interaction. Not only are the female figures gazing outward at the viewer, but their bodies are facing inward toward the action of the ball on the playfield during gameplay. The images of the women are screen printed onto triangular and translucent plastic pieces that allow light to pass through. This is a common playfield feature between the lanes that feed the ball to the flippers and the playfield. The opposite, elongated side of the triangle contain slingshots that repel the ball at high speed upon contact.



Figure 21. *Playboy* playfield. Artwork by Paul Faris. Manufactured by Bally Manufacturing Corporation, 1978. Image from the blog of Bill Martinak, dated March 29, 2014. Accessed May 9, 2016, <https://bmartinak.wordpress.com/2014/03/29/past-times/>. Photo cropped edited by author for clarity.

The playfield of *Playboy* contains several images of women in sexualized attire. The top center contains images of women in the infamous Playboy Bunny suit. They stand at attention with trays in their hands, ready to serve (the player, presumably). The lower center of the playfield contains images of specific Playmates, and the triangular plastics above the slingshots include topsless caricatures tiny of women with pinballs, facing toward the playfield. The left bank of standing targets coincides with a row of Playmate portraits, including names like “Miss March” and “Miss September.” All of the women on the playfield have an outward gaze that interacts with the player.



Figure 22. Detail of *Playboy* playfield "playmate standup targets." Artwork by Paul Faris. Manufactured by Bally Manufacturing Corporation, 1978. Image from the *Internet Pinball Database*, courtesy of Vic Camp, accessed May 9, 2016, <http://www.ipdb.org/showpic.pl?id=1823&picno=63791>.

The left bank of standing targets coincides with a row of Playmate portraits, including names like “Miss March” and “Miss September.” All of the women on the playfield have an outward gaze that interacts with the player. The *Playboy* machine stands out among the rest of the artwork in this survey, not only for its highly sexualized imagery, but for its inclusion of women of color. Whether they are drawn to be accurate, inclusive, or to fulfill a misguided fantasy about collecting women of different “types,” they are included nonetheless.

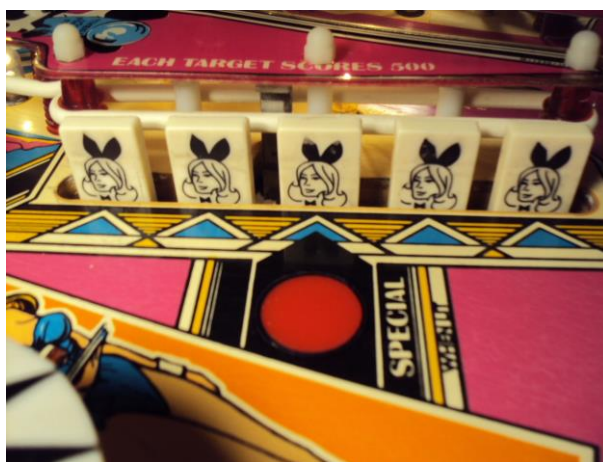


Figure 23. Detail of *Playboy* playfield "bunny drop targets." Artwork by Paul Faris. Manufactured by Bally Manufacturing Corporation, 1978. Image from the *Internet Pinball Database*, courtesy of Vic Camp, accessed May 9, 2016, <http://www.ipdb.org/showpic.pl?id=1823&picno=63790>.

Images of women’s faces appear on drop targets as the generic bunny-eared heads of playboy bunnies. Players are encouraged to strike each target, which causes them to drop under the playfield and out of sight. While this is a typical pinball feature, using images of women as targets encourages player apathy and, at worst, promotes symbolic violence.



Figure 24. *Woman-Lib* pinball machine flyer, SEGA Enterprises, Ltd., 1977. Image from the Internet Pinball Database, courtesy of Yasushi Takeda, accessed May 9, 2016, <http://www.ipdb.org/showpic.pl?id=4565&picno=66118>.

Sega produced *Woman-Lib* exclusively for its Japanese market, but the content serves as an interesting and relevant counterpoint to the images that appear on American pinball machines in the 1970s.

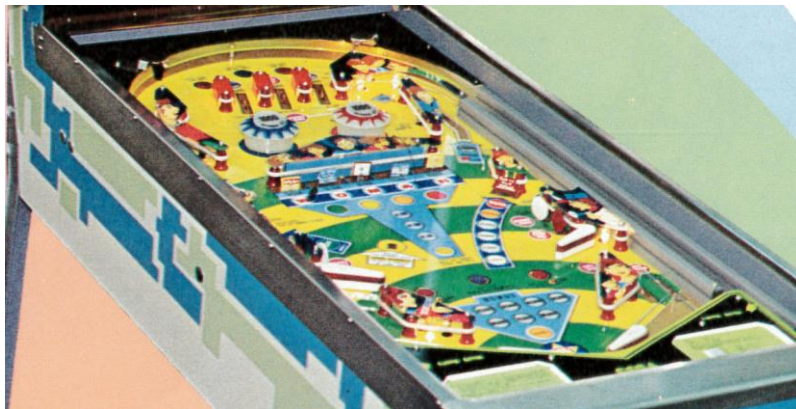


Figure 25. Detail of *Woman-Lib* pinball machine flyer, SEGA Enterprises, Ltd., 1977. Image from the *Internet Pinball Database*, courtesy of Yasushi Takeda, accessed May 9, 2016, <http://www.ipdb.org/showpic.pl?id=4565&picno=66120>.

The horizontal bank of targets in the middle of the playfield contain moving targets shaped like protest signs, the kind carried by women on the backglass image. The imagery acknowledges the activism surrounding the women's movement while encouraging players to strike down protest signs (targets) and halt their movement.



Figure 26. *Woman-Lib* backglass. Artists unknown. Manufactured by SEGA Enterprises, Ltd., 1977. Image from the *Internet Pinball Database*, courtesy of Satoshi Yamanaka, accessed May 9, 2016, <http://www.ipdb.org/showpic.pl?id=4565&picno=59897>.

The backglass of Sega's *Woman-Lib* pinball machine shows women marching together, dressed in all manner of clothing, wearing matching headbands and sashes. Many of them appear with their mouths open and hands up, as if announcing their message loudly and with great enthusiasm. The women carry signs and banners, and the parade extends beyond the borders of the image. While all of the women appear light skinned, they are dressed and styled differently from one another to suggest that they come from different backgrounds.



Figure 27. *Twin Win* backglass. Artwork by Dave Christensen. Manufactured by Bally Manufacturing Corporation, 1971. Image from the *Internet Pinball Database*, courtesy of Mark Gibson, accessed April 17, 2016, <http://www.ipdb.org/showpic.pl?id=2689&picno=5906>. Image cropped by author.

In *Twin Win*, the woman on the backglass is dressed in sexualized attire, including a bikini top and pants that sit low on her hips. She gazes out toward the player. In her hands she holds several flags, but rather than waving them, she stands in place as if posing for the viewer.



Figure 28. *Twin Win* aftermarket modified backglass. Artwork by Dave Christensen. Manufactured by Bally Manufacturing Corporation, 1971. Photograph taken at Chicago Pinball Expo in 1986, courtesy of Russ Jensen. Image from the *Internet Pinball Database*, accessed April 17, 2016, <http://www.ipdb.org/showpic.pl?id=2689&picno=2553>. Image cropped by author.

This aftermarket modification to the backglass was made by the artist, in which he removed her bikini top. Champaign and paper money were inserted into the background behind the figure. The proximity of the woman to the other spoils infers that, like them, she might be an additional trophy to be won. Additional details have been added to the background, including an extended race track. Like the figure in the original image, the woman gazes outward toward the player. In her hands she holds several flags, but rather than waving them, she stands in place as if posing for the viewer.



Figure 29. *An Allegory with Venus and Cupid*, about 1545, Bronzino (Agnolo di Cosimo), The National Gallery, oil on wood, 146.1 x 116.2 cm, bought 1860, in room 8 of gallery, The National Gallery, Trafalgar Square, London WC2N 5DN. <https://www.nationalgallery.org.uk/paintings/bronzino-an-allegory-with-venus-and-cupid>.

Although pinball artwork is not traditionally compared to fine art, or critiqued in a similar fashion, there are many visual elements from fine art that appear in pinball art. One such element involves the display of the female figure. The figure, Venus, is in an unnatural pose that allows the front of her body to continue facing outward toward the viewer. This contorting of the body to maximize agents of sexualization can be seen in pinball artwork, as well as other forms of media like movie posters and comic book covers.



Figure 30. Detail image of *Charlie's Angels* pinball machine flyer. Artwork by Gordon Morison. Manufactured by D. Gottlieb & Co., 1978. Image from the *Internet Pinball Database*, accessed May 9, 2016, <http://www.ipdb.org/showpic.pl?id=492&picno=5061>. Image cropped by author.

Comparing this image of the actresses from the television show *Charlie's Angels* to other representations of women in pinball art draw attention to the ways the artist sexualizes the female figure. The clothes worn by the women in this image cover most of their skin and exhibit folds that realistically define the volume of the draped fabric. In contrast, pinball artists often draw form-fitting clothing that define an outline of the woman's body underneath. When artists work on licensed games like this one, they do not have the same amount of control over the artwork's content as they would with original themes. The actresses depicted would likely need to give their approval for how they will be represented, and could even protest elements about the artwork they found unappealing, inappropriate, or sexist.



Figure 31. Detail image of *Charlie's Angels* pinball machine flyer. Artwork by Gordon Morison. Manufactured by D. Gottlieb & Co., 1978. Image from the *Internet Pinball Database*, courtesy of Kim Mitchell, accessed May 9, 2016, <http://www.ipdb.org/showpic.pl?id=492&picno=53977>. Image cropped and adjusted for clarity by author.

In this image we see the lead characters at the center of the playfield, appearing much like they do on the backglass. Compare this to the image of the unidentified, bikini-clad woman on the right. The addition of this character is not contextualized, and seems almost like an afterthought. Unlike the other images, the bikini-clad woman has nothing to do with fighting crime.

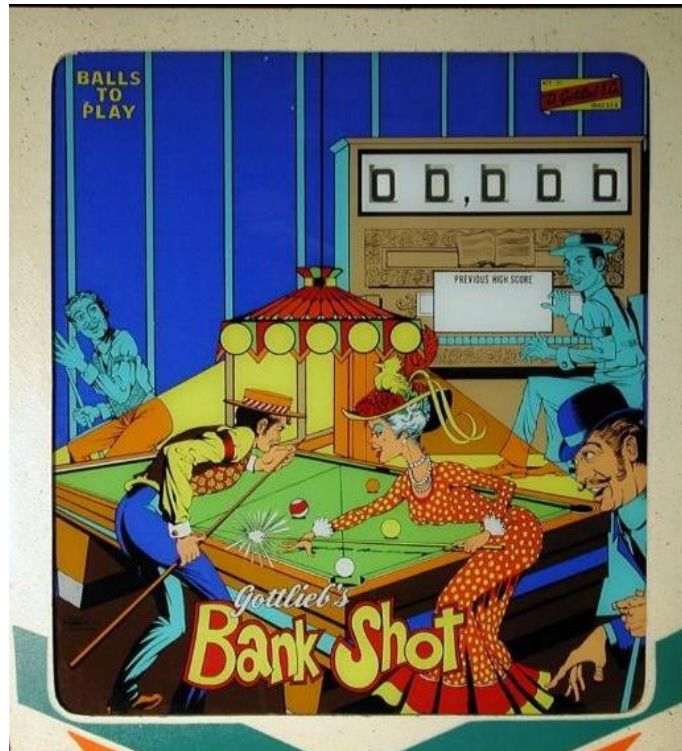


Figure 32. *Bank Shot*, manufactured by D. Gottlieb & Co., 1976. Artwork by Gordon Morison. Image from the *Internet Pinball Database*, courtesy of Mark Clayton, accessed April 17, 2016, <http://www.ipdb.org/showpic.pl?id=169&picno=24993&zoom=1>. Image cropped by author.

The only female in this saloon-themed game shows female agency through independent action and equal participation in the main activity depicted on this backglass. Furthermore, a bank shot is a skilled maneuver in billiards, showing her prowess. It is left to the viewer's imagination whether or not she sunk a ball into the corner pocket with this shot. Despite the unlikely trajectory of the ball, and the possibility that the cue ball is the only ball headed for the scoring pocket, the overall image reflects the actions of a skilled player. It is also important to note that the gaze of the surrounding male figures is on the play area and the action taking place, rather than on the woman. This combination of the depiction of female agency combined with recognition of that agency through spectatorship is exceedingly rare, if not singular, within the survey sample.

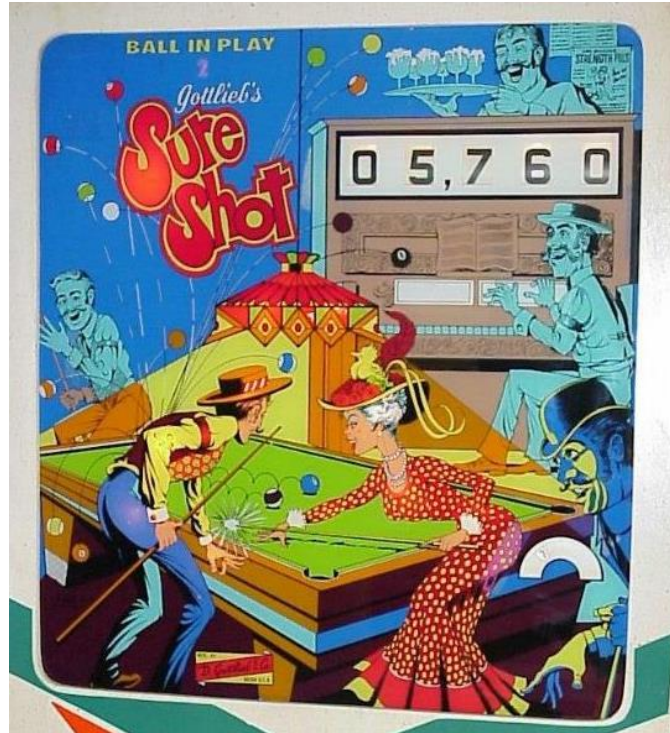


Figure 33. Detail of *Sure Shot* backglass, manufactured by D. Gottlieb & Co., 1976. Artwork by Gordon Morison. Image from the *Internet Pinball Database*, courtesy of Vic Camp, accessed April 17, 2016, <http://www.ipdb.org/showpic.pl?id=2457&picno=12643&zoom=1>. Image cropped by author.

Compare this to figure 23, *Bank Shot*. The only female in this saloon-themed game shows female agency through independent action and equal participation in the main activity. The difference is that her competency as a billiards player is undermined within the scene in several ways. The trajectory of the ball is obscured by the male player, however, we can see from the explosion of billiard balls that she not only missed her shot, but completely derailed the game with her incompetence by sending the balls flying off of the surface of the billiard table. Several of the male characters have been redrawn for this version of the artwork, with notable differences. The male spectators are still watching the action rather than the female player, however, the piano player is now looking at the balls that have been sprayed into the air. The addition of another male spectator, a barista or server with a tray of drinking glasses, seems to laugh at the spectacle. The trajectory of stray billiard balls as they fly toward the tray of drinking glasses creates additional drama, and poses the possibility of negative consequences for the female player's actions that extend beyond the billiard game into the surrounding environment. This is one example of backglass artwork by Gordon Morison in which the artwork has been changed in ways that alter the representation of female figures in the scene.



Figure 34. *Sure Shot* illuminated playfield, manufactured by D. Gottlieb & Co., 1976. Artwork by Christian Marche. From the *Internet Pinball Database*, accessed April 17, 2016, <http://www.ipdb.org/showpic.pl?id=2457&picno=8452&zoom=1>.

This playfield was used for both *Sure Shot* and *Bank Shot*, two different versions of the billiards-themed game. While each of the backlasses contain a female figure, there are no females present in the playfield artwork.



Figure 35. *Dolly Parton* Pinball Machine. Artwork by Dave Christensen. Manufactured by Bally Manufacturing Corporation, 1979. Image from the *Internet Pinball Database*, courtesy of Jean-Pierre Renault, accessed April 14, 2016. Image retrieved from <http://ipdb.org/showpic.pl?id=698&picno=48565&zoom=1>.

In this backglass image, *Dolly Parton* is styled to match her pop music, Las Vegas persona. She is drawn with her mouth open and microphone in hand, with a sway in her hips, as if she is in the middle of a performance. She gazes outward at the player as a form of player interaction. Her massive hairdo reinforces her larger-than-life persona. This backglass shows agency, not least of all because the game is named for her. The theme reflects her identity as a popular musician. Her attire is sexualized, with a plunging neckline that reveals her cleavage. The sheer material that make up her sleeves and the majority of her skirt reveal the outline of her legs, including her upper thigh.



Figure 36. *Dolly Parton* Pinball Machine. Art by Dave Christensen. Manufactured by Bally Manufacturing Corporation, 1979. Image from the *Internet Pinball Database*, courtesy of Miroslaw Adamczewski, accessed April 14, 2016. Image retrieved from <http://ipdb.org/showpic.pl?id=698&picno=30974>.

The playfield of the *Dolly Parton* pinball machine shows Dolly with a microphone in hand, but with a much different style and energy than the backglass image. In this image, she is wearing a gingham shirt tied at the waist and cut-off jean shorts. Her feet and legs are bare. She is in a relaxed, seated pose. Her casual attire and posture, combined with her serene and friendly demeanor, are reminiscent of her country music persona.



Figure 37. *Pro Pool* backglass, manufactured by D. Gottlieb & Co., 1973. Artwork by Gordon Morison. Image from the *Internet Pinball Database*, courtesy of Vic Camp, accessed April 17, 2016, <http://www.ipdb.org/showpic.pl?id=1866&picno=22992>. Image cropped by author.

This image shows an example of women engaged in what I call *symbolic participation*. A man steadies his pool cue at the table. One man appears to be interacting with him while another man in the foreground watches. The remaining figures in the scene appear disengaged and separate from the action, despite holding pool cues in their hands. Their gaze is not directed at the action, but at each other. To further emphasize their separation from the main activity, they are depicted (skin and all) entirely in shades of yellow-green in a way that paints them as “other.”

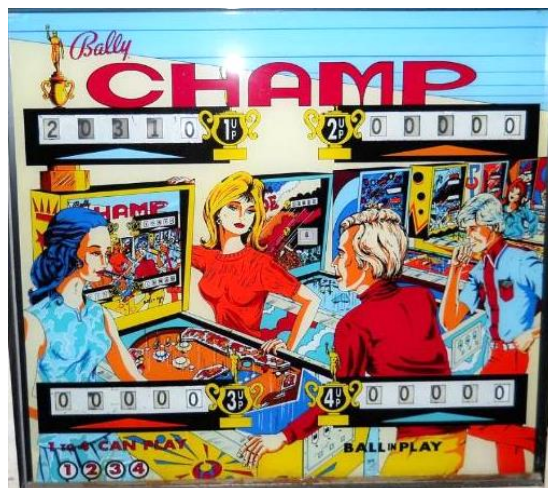


Figure 38. Detail of *Champ* pinball machine backglass. Artwork by Christian Marche. Manufactured by Bally Manufacturing Corporation, 1974. Image from the *Internet Pinball Database*, courtesy of Helmut Preining, accessed May 7, 2016, <http://www.ipdb.org/showpic.pl?id=486&picno=67264>. Image cropped and adjusted for brightness by author.

Compare this image to the earlier *Super Score* pinball machine produced in 1967 by Gottlieb (figure 13). One man plays pinball while all other figures in the scene passively watch. While the man in the scene is watching the gameplay, the women are watching the male player depicted in the artwork. Their poses and gazes are disengaged from the main activity of the game, despite touching the pinball machine. I would consider their involvement a kind of *symbolic participation*. Their touch is the only thing connecting them, literally and ideologically, to the activity of playing pinball.

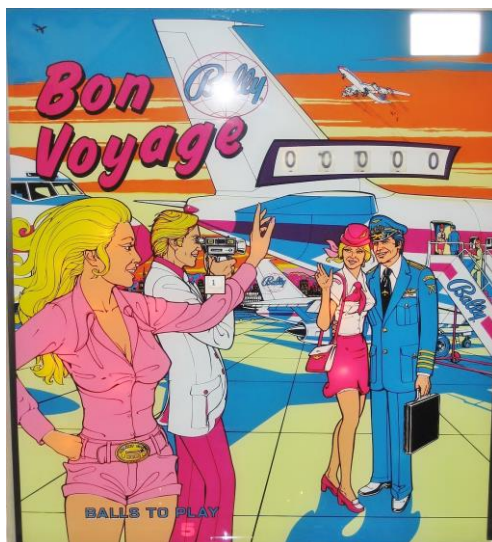


Figure 39. Detail of *Bon Voyage* early production backglass. Artwork by Dave Christensen. Manufactured by Bally Manufacturing Corporation, 1974. Image from the *Internet Pinball Database*, courtesy of Shawn Holland, accessed May 8, 2016, <http://www.ipdb.org/showpic.pl?id=343&picno=62163>.

In this backglass image, there are three different groupings, each with at least one female figure and one male figure. The most notable elements are the male gaze as depicted through the cameraman filming others in the scene. The depiction of a female stewardess beside a male pilot on the right is an example of *function ranking* as defined by sociologist Erving Goffman. Notice how the woman's body is facing inward, the arm of the pilot is surrounding the stewardess, and the placement of his hand upon her waist. This body language implies a relationship between the two that is deeper than that of co-workers.

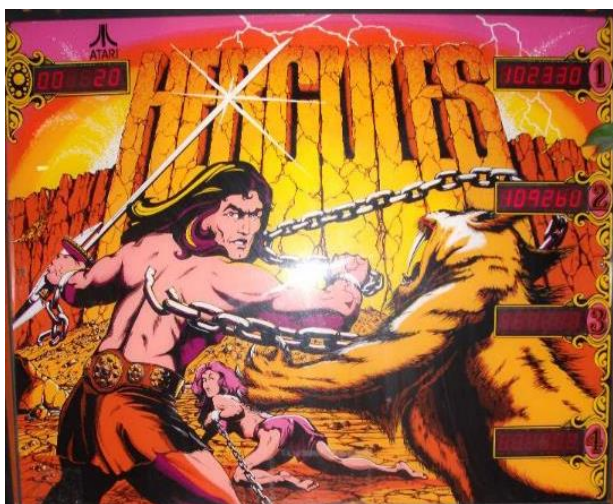


Figure 40. *Hercules* backglass, manufactured by Atari, Inc., 1979. Image from the *Internet Pinball Database*, courtesy of Mark Johnson, accessed April 17, 2016, <http://www.ipdb.org/showpic.pl?id=1155&picno=41919>.

Atari's *Hercules* is possibly the largest commercial pinball machine ever made. This status is reflected in the subject matter, of the large and muscular Hercules. Hercules battles a wild beast. Behind him, a woman is prostrated on the ground, crawling away from the combat and the dangerous beast. Her pose is awkward rather than defensive. In this image we see an example of female endangerment in which only the man is armed and capable of combat.



Figure 41. *Paragon* illuminated backglass. Artwork by Paul Faris. Manufactured by Bally Manufacturing Corporation, 1978. Object on display in the *Pinball Playfields* exhibit at the Strong National Museum of Play. Photo courtesy of the author.

The female figure in this image is placed at the bottom of the frame. She is dressed in highly sexualized clothing that reveals most of her body, including exposed cleavage and the shadow of her nipples through the clothing. The figure is also bound with a shackle and chain at the ankle. A manticore (fictional creature with the head of a lion) approaches her from behind with its teeth and claws bared, and wide eyes focused on the female figure. She is in a submissive pose with a calm expression, despite the immediate anger. She is unarmed and in a submissive posture articulated to display her body toward the viewer. Above the manticore, a male figure armed with a sword is posed as if about to strike the beast. While the male gaze within pinball artwork is generally left to male figures, in this instance, the artist substitutes the gaze of the manticore, in that the viewer is to perceive the female as prey.



Figure 42. *Genie* backglass. Artwork by Gordon Morison. Manufactured by D. Gottlieb & Co., 1979. Image from the *Internet Pinball Database*, courtesy of Jean-Pierre Renault, accessed April 17, 2016, <http://www.ipdb.org/showpic.pl?id=997&picno=60976>.

In this image, we see two figures and a small animal-like creature looking upward at a magical genie as she is released from a magic lamp. Her arms and smile are spread wide, inviting the gaze of the other figures and the viewer. She is presenting her sexualized semi-human body to the viewer.



Figure 43. *Genie* playfield. Artwork by Gordon Morison. Manufactured by D. Gottlieb & Co., 1979. Image from the *Internet Pinball Database*, courtesy of Mark Steinman, accessed April 17, 2016, <http://www.ipdb.org/showpic.pl?id=997&picno=52468>.

In the playfield image, we see a male figure with his hand pointed at the Genie, either commanding her to casting a spell. The Genie is in a relaxed pose with a smile on her face, despite her enslavement to the owner of the lamp.

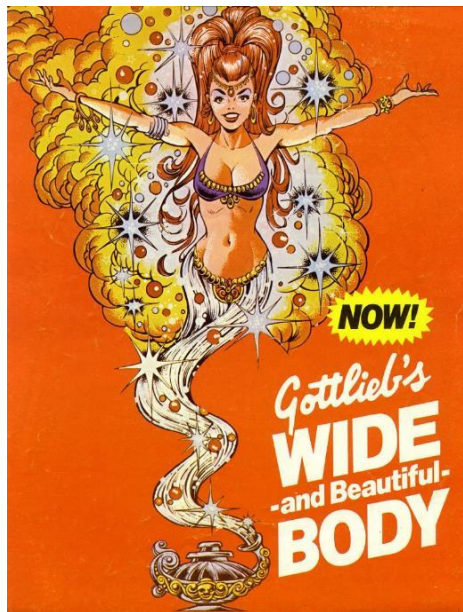


Figure 44. Flyer for *Genie* Pinball Machine manufactured by D. Gottlieb & Co. Artwork by Gordon Morison. Image from the *Internet Pinball Database*, accessed April 17, 2016, <http://www.ipdb.org/showpic.pl?id=997&picno=5080>.

The image is a modified detail of the backglass artwork that depicts the genie appearing from the confines of a magic lamp. The text alludes to both the “wide body” styled pinball machine and the body of the woman in the image. The advertisement informs that the reader can have both the pinball machine and the woman depicted “Now!”

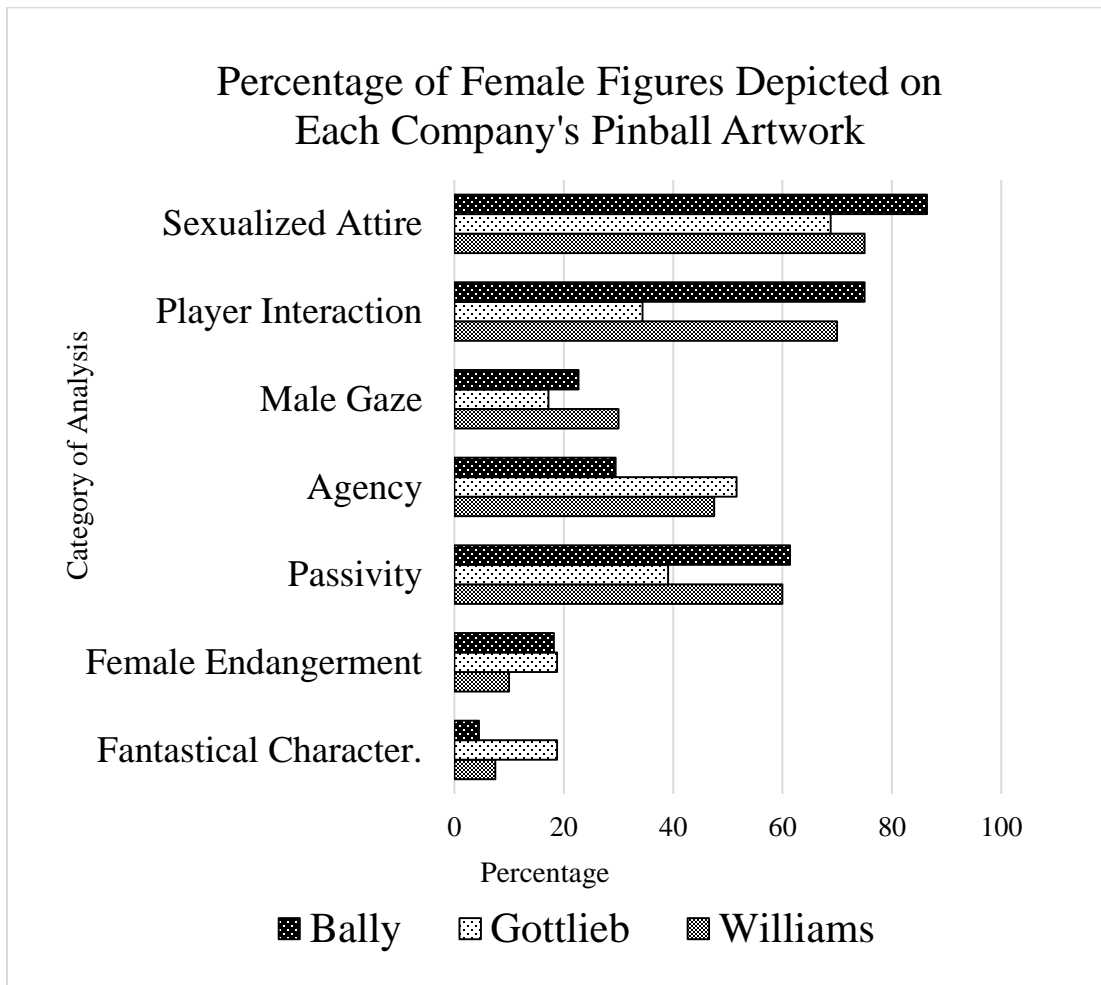


Figure 45. Bar graph depicting how three different pinball manufacturers depicted females in pinball artwork according to specified categories of content analysis.

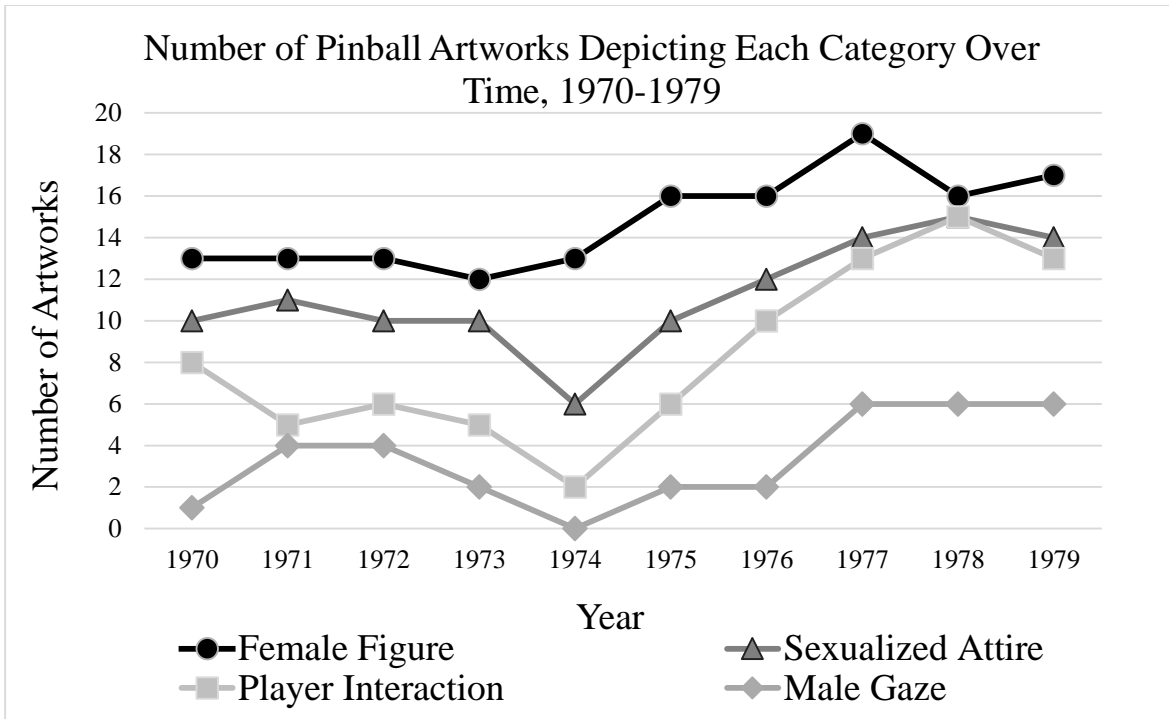


Figure 46. Line graph depicting change in the content of pinball artwork over time, from 1970 to 1979.



Figure 47. *Monster Bash* concept drawing, ca. 1998. “Developing Monster Bash,” *Professional & Amateur Pinball Association* blog, December 12, 2013. Accessed February 2, 2016, <http://papa.org/2013/12/12/developing-monster-bash/>. Image cropped by author.

This image shows a rough sketch of the backglass artwork for *Monster Bash*. The figures are divided into the “band” and the “audience” with the exception of extraneous dancing girls suspended in cages above the stage. The caged dancing woman is used in this image to add a sexually stimulating element to the overall spectacle of the rock concert depicted. It is also symbolic of the double-standard women face when it comes to their own sexuality. Actual women are often looked down upon when they exhibit the kinds of sexual behavior depicted in this image, and female sexuality as it appears in pinball artwork is often under the complete control of the artist.

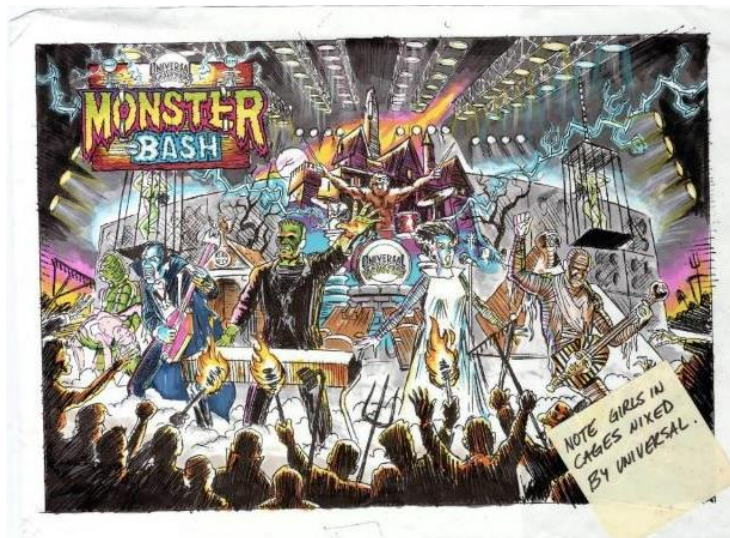


Figure 48. *Monster Bash* concept drawing, ca. 1998. “Developing Monster Bash,” *Professional & Amateur Pinball Association* blog, December 12, 2013. Accessed February 2, 2016, <http://papa.org/2013/12/12/developing-monster-bash/>. Image cropped by author.

This color draft of the artwork for *Monster Bash* shows a rare glimpse at the feedback a pinball artist received while working on a licensed game. The instructions to remove the women dancing in cages removed some of the more overt and unnecessary sexualizing elements in this image.



Figure 49. *Monster Bash* concept drawing, ca. 1998. “Developing Monster Bash,” *Professional & Amateur Pinball Association* blog, December 12, 2013. Accessed May 9, 2016, <http://papa.org/2013/12/12/developing-monster-bash/>. Image cropped by author.

The image has a more focused theme and composition with the removal of the dancing women in cages.



Figure 50. *Monster Bash* backglass artwork by Kevin O’Connor, 1998. Image from the *Internet Pinball Database*, accessed March 19, 2016, <http://www.ipdb.org/showpic.pl?id=4441&picno=5443>.

This is the completed backglass as it appears on the pinball machine.



Figure 51. Detail of *Monster Bash* backglass artwork by Kevin O'Connor, 1998. Image from the *Internet Pinball Database*, courtesy of John Gray, accessed March 19, 2016, <http://www.ipdb.org/showpic.pl?id=4441&picno=29083>.

Removing the women in cages from the artwork did not remove all sexualized depictions of women. In this detail of *Monster Bash*, a scantily clad woman lies limp in the arms of the Creature from the Black Lagoon.



Figure 52. Detail of *Creature from the Black Lagoon in 3-D* backglass, artwork by Kevin O'Connor, ca.1992. Image from the *Internet Pinball Database*, courtesy of Jeff Ball, accessed April 17, 2016 <http://www.ipdb.org/showpic.pl?id=588&picno=5250>.

This image, like the *Monster Bash* backglass in figure 51, shows the Creature from the Black Lagoon holding an unconscious woman in its arms. The woman is completely vulnerable due to her unconscious state and her sexualized attire. This image uses female endangerment to create drama, much in the way that the covers of pulp novels and comics books do.

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