Ludic Toons
The Dynamics of Creative Play
in Studio Animation

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Though generally accepted as the most playfully entertaining form of popular media or art, animation as play has received little scholarly analysis. The author examines the nature of playfulness in animation and describes play as a critical tool in animation studies. Examining studio character animation from such perspectives as creative production, animated output, and audience reception, he builds on findings of animation studies, neuroscience, cognitive psychology, anthropology, semiotics, sociology, and aesthetics to propose a specific or ludic mode of animation. He then reviews how cinematic naturalism affects the nature of play in animation. He concludes that animation is a playground for the mind and that engagement with animated entertainment is authentic play. **Key words:** animation history; animation studies; cartoons; Disney; Pixar; playfulness in animation; Warner Bros.

Introduction and Scope

THE FIELD OF FILM STUDIES is itself relatively new, a phenomenon of the 1960s, and animation studies is younger still; it emerged only in the last twenty years. Although most of us find animated cartoons both playful and entertaining, academics have long shied away from the study of animation for this very reason. The perception of animation as "cartoons for kiddies," largely a Disney legacy, has meant that mainstream animation was a "no-go area for most film critics and theorists" (Pilling 1997, xi). The study of play has similarly suffered such neglect. Given the confluence of these two shunned subject areas, it should be hardly surprising that there has been little, if any, analysis of animation as play, and rarely do we find any play-related discussions in scholarly works on animation—or even any mention of play in their indexes. This omission seems odd because playfulness appears to be one of the more salient qualities of mainstream animation. We would find it strange, for example, if animation scholars, happy

to discuss color, form, narrative, and sound in animation, ignored movement because it was too obvious.

But animation studies underemphasize play and playfulness for a number of reasons, foremost amongst them what Brian Sutton-Smith (1997) calls the rhetoric of frivolity—a rhetoric that affects perceptions both of animation and play. Many people consider play, as they do animation, appropriate only for kids and, therefore, essentially frivolous; so there is little incentive for academics to promote either as a field of study. Then, too, there is the complex and dynamic nature of play and playfulness. They are simultaneously ubiquitous and elusive, often too enigmatic and ambiguous to fit neat academic categories. So the mixing of animation, play, and academia seems fraught with problems.

Chuck Jones, the legendary animation director, was well aware of the dangers of analyzing creative play. In a cover comment for cultural critic and animation historian Norman M. Klein's *7 Minutes: The Life and Death of the American Animated Cartoon* (1996), Jones notes the dissection of humor "by far too many joyless PhDs" and warns that "the subject may die in the process." The essence of animation brings life to the inanimate, so it would be a cruel and unusual irony were I to kill it through critical analysis. Since "the cartoon is a playful art," one "without pretentions [that] teases both those who neglect it and those who take it too seriously" (Lindvall and Melton 1997, 204), my objective here is to juggle the myriad kinds of creative play let loose in a century of animation, to examine these creative antics in pursuit not of mere academic respectability, but of enlivened understanding, and, thus, to contribute both to our understanding of play and to our engagement with animation.

Despite its relative academic neglect, animation constitutes a huge and eclectic field, one whose scope we need to define for this study. Although the history of mainstream animation— dating from about one hundred years ago—parallels that of film, the kinds of animation in this short time have been diverse. They include early "lightening hand" techniques, cartoon animation, puppetry, claymation, anime, motion graphics, 2D and 3D computer animation and real-time animation for games. More recently, the forms of animation have proliferated because of advances in digital technologies. All these eclectic technologies and styles share a common technique: they use moving imagery composed one frame at a time.

Animation can have various intended audiences, distribution platforms, and functions. It can be distributed for cinema, TV, DVD, online networks, game consoles, and mobile phones. And it can be created for arts, entertainment, advertising, training, brand identity, education, visualization, simulation, or

information. As Klein (1996) puts it, "what began in the 1890s as a caricature of vaudeville space, on a surface borrowing from popular illustration, became, by the 1990s, a theme-park on a surface of electronic memory" (241). A playful animation aesthetic has been applied to computer interfaces, television narratives, video games, theme parks, and even architecture. Renowned architect Frank Gehry's buildings "are famously playful" and, fittingly, his "gloriously cartoon-like" Walt Disney Concert Hall in Los Angeles is "an off-screen cartoon writ large and boisterous" (Glancey 2003).

Although we generally define animation as a genre of film, we now often regard the latter as a subset of animation because movies are replete with visual effects and tweaked so extensively frame by frame that, in many respects, they are animated. In a digital milieu, most visual media are composed of what new-media theorist Lev Manovich (2006) calls a *hybrid aesthetics* and "most of these methods were born from animation and have animation DNA" (43). Such a proliferation of animation should not be surprising; if animation is the quintes-sentially playful form of moving images, then we can hardly be surprised at its evolution into a multiplicity of playful possibilities.

In this analysis, I focus on mainstream, narrative-based animated shorts and features made for cinema release by commercial American studios. This comprises a coherent body of historically related work—the cartoon and its more contemporary manifestation, the 3D animated feature. Nevertheless, much of what follows applies to many forms of animation and, indeed, to play and playfulness in relation to the arts and entertainment generally. I look at animated play from the perspectives of production (the animator-director at play), artwork (the animated artifact as playful form), and consumption (the audience at play). I also look at three different studios: Disney during the 1930s and 1940s; Warner Bros. during the 1940s and 1950s; and their contemporary equivalent, Pixar—the state-of-the-art studio for 3D animated features. Other forms of animation (and other arts) make guest appearances in my article where relevant. My approach affords the opportunity to focus on a coherent body of chronologically connected work and has the added advantage of including animation that many readers will recognize.

Play as Art, Comedy, and Entertainment

All art is sometimes considered play. In his rhetorics of the imaginary, Brian Sutton-Smith (1997) differentiates between broad and narrow definitions of

play. The broad play-theory view that all art is play derives mainly from "the historic movement known as romanticism" (148) but has a more contemporary manifestation in cognitive aesthetics. Brian Boyd (2009), a specialist in literature and evolution takes a biocultural approach and defines art both in terms of engagement and creation, as "cognitive play with pattern," and he sees artistic output as a "playground for the mind" designed to engage human attention (15). Philosopher of art and evolutionary psychologist Denis Dutton argues that children's pretend play is of a piece with the adult experience of fiction. While the connections are intuitively self-evident, Dutton (2009) suggests that "the high sophistication of decoupling mechanisms that isolate real from pretend worlds" (108) is evidence that pretend play and fiction making evolved as forms of specialized intellectual capability.

Scholars sometimes conflate play and art, but Sutton-Smith (1997) considers this naïve simplification of romantic theory unhelpful. He suggests, instead, that we differentiate the phenomena even if they often overlap. He quotes psychologist Howard Gardner's useful distinction between play and art: Play involves "mastery of anxiety, self, and the world;" Art involves "the mastery of symbolic systems" (135). Play with symbolic systems, in the form of practice of and engagement with the arts, can also be very much part of our attempts to master anxiety, self, and world. "The broad view," Sutton-Smith writes, "doesn't have to mean that art is play, it only means that the incessant activity of the playing mind is constantly present, intermixing with the processes of composition" (136). This view matches Boyd's definition of art as cognitive play with pattern.

Because animation is so rarely analyzed as play, we want to make sure we are really talking about play. As Sutton-Smith says, in some cases "the word *play* itself might be thought of as merely a metaphor for some other process of variability, randomization, or chaos that is going on in all this plurality" (144). *Lichtspiel* (light play) was the original German term for moving pictures or cinema. Light playing on a screen may indeed be metaphorical, but play itself is "a biological, prelinguistic enactment with its own claims on human existence" (143), and I contend that both the creators of those light-play patterns and members of the audience watching them are really at play.

In both film and animation, play often overlaps with entertainment, comedy, and humor, so how can we be sure that play is a more useful category than entertainment, comedy, or humor for analyzing animation? The very fact that many scholars consider animation entertainment has contributed to its neglect. Ironically, "the casual way in which animation and the cartoon are treated by

film theorists is due in part to the self-deprecating humor of the cartoon itself" (Lindvall and Melton 1997, 204). Even though comedy as a genre has traditionally held a lower critical status than more "serious" genres, theorists have overwhelmingly favored comedy and humor over play as analytical categories for mainstream animation. Tellingly, animation theorist Paul Wells analyzes animation in terms of comedy and humor, not in terms of play, in a chapter titled "25 Ways to Start Laughing" (1998, 127–86).

In fact, play is fundamental to humor, comedy, entertainment, and the arts. Humor is a form of play, and comedy is dramatically structured humor. Play underpins both. It is the wellspring of entertainment for producers and consumers alike. In *Caught in Play* (2009), cultural anthropologist Peter Stromberg considers entertainment (including watching films and television) a form of play. He defines entertainment as "playful activity undertaken for its own sake, in pursuit of pleasure that diverts the player from the day-to-day" (7).

In short, the human impulse to play, in a broad sense, underpins all arts, but is more saliently evident in comedy and entertainment. As an analytical category, play can offer valuable insights into art forms traditionally examined (or neglected) as humor, comedy, and entertainment. Play and playfulness as critical tools augment the traditional analyses used in media and film studies and offer fresh perspectives from fields such as play studies, evolutionary biology, neuroesthetics, and cultural anthropology. Insights into the human play underpinning creative production and consumption enhance the formal analysis of cultural artifacts in general.

A Historical Romp through a Century of Animated Play

Recent scientific studies have shown that Stone-Age children in caves at Rouffignac in France played extensively with finger painting (Davies 2011), and—as Werner Herzog observes in his 3D study of cave painting, *The Cave of Forgotten Dreams* (2010)—mankind has also played with animated imagery ever since firelight made shadows dance on cave walls. Although there is a long history of precinema motion picture devices like the zoetrope and the praxinoscope, animation as we know it today emerged from early films just over a century ago.

Illusion comes "from the Latin word *in-lusio*, literally *in play*" (Spariosu 1997, 125). Early animation was inevitably experimental, and film makers soon discovered stop motion, where film could be exposed one frame at a time, open-
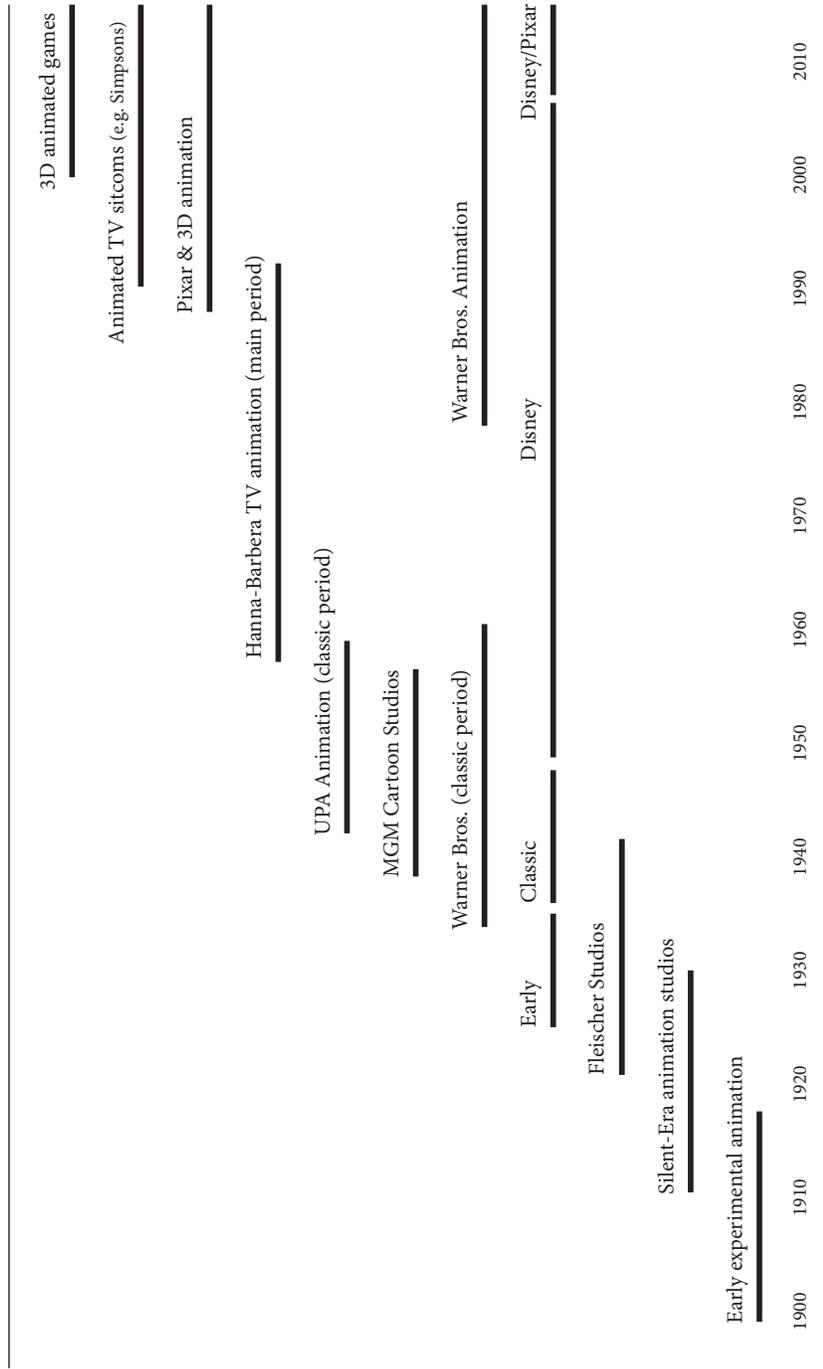
Figure 1. Timeline for mainstream U.S. studio animation

ing up the possibility of playing with illusion and fantasy. They also engaged in allusion—throughout its history, animation has played with the conventional art forms from which it emerged or with which it coexisted, including comic strips, vaudeville, and, of course, cinema.

Anglo American vaudeville performer James Stuart Blackton—whose routine included live chalk talks or lightning sketches (fast-drawing routines with comic stage patter)—transposed his act to film using stop motion. The title of one of his early films, *The Enchanted Drawing* (1900), sums up the possibilities for magical illusion and graphic transformation. Blackton created both in his 1900 work and in his *Humorous Phases of Funny Faces* (1906), two of the better known animated films in the lightning-hand style. For many aficionados, however, the first fully animated film was *Fantasmagorie* (1908) by the French director Émile Cohl, a founding member of the playful but all-but-forgotten arts movement of the so-called Incoherents. All these films show the artist's hand drawing characters that take on a life of their own, stick-figure shapes that transform in playful metamorphoses.

Animated films appeared in vaudeville shows in the early twentieth century. Well-known comic-strip artist Winsor McCay created early character-based animation including *Gertie the Dinosaur* (1914). McCay toured in vaudeville with his films, and his live act included talking to Gertie the Dinosaur, who responded in animated form. McCay would then playfully "enter" the animated film and take a ride on Gertie's back. This was a sophisticated interplay between live action on stage and animated characters (including the stage actor) on film. But eventually "there was a noticeable shift of emphasis from the performer to the drawings." Gradually the performing player disappeared, and the play appeared solely on the screen (Solomon 2000, 15).

Soon animation studios blossomed, mainly in New York, and animation became very popular during the silent-film era. Felix the Cat became a big hit for the Sullivan Studio, which also benefited hugely from Felix merchandising. But the studio proved slow to take to sound, and Felix the Cat's best days happened during the silent era. Also in the 1920s, the Fleischer Studio produced the Out of the Inkwell series starring Koko the Clown, mixing animation and live action (the animator's hand often playfully interacting with the character). The Fleischer brothers were both artistically and technically innovative. Max Fleischer invented the rotoscope (allowing animators to trace live-action footage for animation), and the brothers initiated a sound-on-film cartoon and, arguably, in 1923 a full-length, scientific animated feature, *The Einstein Theory*

of Relativity (Klein 1996). Their long-running and profitable Car-Tunes were essentially animated sheet music, featuring the famous bouncing ball following animated lyrics—sort of an early form of Karaoke. While the organist played, the audience was "encouraged to follow the bouncing ball and sing along" (Kanfer 2000, 57). Play was central to the Fleischers' ethos. They "believed in improvization as a duty" and exhorted their staff "to make their work more absurd and funnier" (56).

In 1923 Walt Disney, a graphic artist who had toyed with animation in Kansas City, moved to Los Angeles and founded the Disney company with his brother Roy. They produced animated series such as Alice's Wonderland and Oswald the Lucky Rabbit. But after the distributor claimed the rights to the Oswald character, Walt Disney—along with animator Ub Iwerks—invented a new character called Mickey Mouse (Wasko 2001). Although Iwerks animated two silent films starring Mickey Mouse (*Plane Crazy* and *Gallopin' Gaucho*), the third film they produced, *Steamboat Willie* (1928), was the first released after they added synchronized sound (Wasko 2001). Sound brought the cartoon to life, and the audiovisual interplay made it not only more realistic but also afforded more opportunity for fun, especially with music and wacky sound effects (*Steamboat Willie* features a host of animals and objects used as musical instruments). Disney then released the earlier films with sound added, and Mickey Mouse became a huge hit.

During the early 1930s, Disney's short animations grew in popularity and visual sophistication. The very successful Mickey Mouse and Silly Symphonies series introduced popular characters like Donald Duck, Goofy, and Pluto. But Walt Disney wanted more naturalistic imagery and more visual depth, and as the studio grew in size and influence during the 1930s, it put a huge amount of work into bridging the gap between animation and live-action film. By the late 1930s, Disney used Technicolor and a sophisticated multiplane camera for depth illusion to develop the studio's more naturalistic aesthetic.

The studio moved next into full-length animated features during what many would call its classic period. Disney produced feature-length animations such as *Snow White and the Seven Dwarfs* (1937), *Pinocchio* (1940), *Dumbo* (1941), and *Bambi* (1942). Walt Disney, at the time, aspired to his well-known "illusion of life" aesthetic, and these animated features eschewed play, considering it anarchy, and aspired instead to a cinematic naturalism structured around a strong narrative arc. The Disney style soon dominated the industry. Although the studio's competitors, the Fleischers, enjoyed big hits with Betty Boop and

Popeye, by the late 1930s, "even the Fleischers would 'Disneyify' their cartoons," making their style more naturalistic. In *Gulliver's Travels* (1939), their first color feature, Gulliver "looks like a relative of Snow White" (Klein 1996, 59).

But not every studio followed suit. By the mid-1930s, Warner Bros. had arrived on the scene (although not always under that name—it was known at various times as Leon Schlesinger Productions, Warner Bros. Cartoons, Warner Bros. Animation, Warner Bros. Pictures, Warner Bros., and Warner Brothers). Famous for characters such as Bugs Bunny, Daffy Duck, Tweety Bird, Porky Pig, Wile E Coyote, and the Road Runner, Warner Bros.'s best known directors were Tex Avery and Chuck Jones. The unique comedic style of their Looney Tunes and later Merrie Melodies stemmed from the slapstick tradition that goes back as least as far as the seventeenth century's Commedia dell' Arte. The studio's comedy featured physical violence, collisions, play fighting, acrobatics, rough-and-tumble play, and horseplay. By the late 1930s, Warner Bros. animation, in contrast to Disney, bore an increasingly playful and anarchic aesthetic.

Tex Avery went on to direct animation at MGM Cartoon Studios, and this studio, too, gained a reputation for slick and playful animation to rival Warner Bros. itself. Directors William Hanna and Joseph Barbera also influenced operations at MGM, and they developed the characters Tom and Jerry before moving to television.

In the 1940s, several animators (most notably John Hubley) who left Disney following the 1941 strike against the studio, formed UPA (United Productions of America). Reacting against the naturalism (as well as the work practices) of Disney and inspired by Chuck Jones at Warner Bros., these artists pioneered the aesthetic technique of limited animation. "The famously flat and planar UPA studio style of the 1950s is the best known reaction against the prevailing Disney vision of cartoon space" (Crafton 2006, 178). UPA became renowned for this stylized graphic and flattened look, which was later poorly imitated in television to reduce production costs. The studio became known for series like *Gerald McBoing-Boing* and *Mister Magoo*.

After MGM's animation division closed in 1957, producer-directors William Hanna and Joseph Barbera went on to create a string of hit animated shows for television starring characters like Huckleberry Hound, Yogi Bear, and Quick Draw McGraw. In the 1960s, they carried on with series such as *Magilla Gorilla* and *Top Cat,* and they had a huge hit with *The Flinstones*, which became the longest-running animated show in American prime-time television history until it was overtaken by *The Simpsons*. Hanna-Barbera cornered the market

in cheap limited animation, the staple fare of Saturday morning cartoons for kids. More hits such as *Scooby-Doo* followed, and production continued until the late 1980s, when the studio was absorbed into the revamped Warner Bros.

The Flinstones was essentially a sitcom, but a whole, new genre of animated sitcoms originated in the late 1980s. *The Simpsons* spearheaded this new trend toward a more adult-oriented animated comedy. Although very stylized visually and relatively low on visual verisimilitude, *The Simpsons* became noted for its salient and witty social realism. Essentially an animated satirical sitcom, its producers rationalized costs by using 2D computer software and by outsourcing much of the animation to South Korea. Its huge success over the past twenty years has underpinned the genre of successful prime-time animated satirical sitcoms, many of them directed at teenage and adult audiences. These include series such as *South Park, Duckman, Beavis and Butt-head, Family Guy, Ren and Stimpy, American Dad, King of the Hill, The Cleveland Show*, and *Futurama*, most of them characterized by relatively simple, stylized (and sometimes deliberately crude) 2D animation while at the same time emphasizing script and dialogue. They generally foreground satirical, often edgy, adult humor, black comedy, social, cultural, and political satire, and intertextual media parody.

In 1995, animation took another turn when Pixar released *Toy Story*, the first full-length animated feature created completely using 3D digital animation. Since then, 3D animation has come of age. Now dozens of 3D features appear every year. The vast majority of Oscar awards for Best Animated Feature—first offered in 2001—have been generated in 3D CGI (computer-generated imagery), the majority of which Pixar created.

Now, too, computer games have entered mainstream, even outstripping cinema in terms of turnover. 3D animated computer games are the most advanced and best-selling games in a rapidly expanding market. Most 3D animated features spawn video game tie-ins, which makes perfect sense commercially because most of the digital resources (e.g. character models) can be recycled, along with publicity and marketing.

Three studios stand out— especially in their relation to play—in any history of American-based studio animation: First comes Disney, a name synonymous with animation, especially in its classic period, with its stable of cute and playful iconic characters; Then comes Warner Bros., with its critical reputation for anarchically playful animation that in many ways—including playful parodies of Hollywood and Disney and nonnaturalistic design—embodied a "subversive anti-Disney aesthetic" (Charney 2005, 144); Finally comes Pixar,

now a division of Disney, by far the most successful contemporary studio, one synonymous with high-end computer-based 3D animation, embodying a shift from old toys to new, a theme metaphorically referenced in its *Toy Story* trilogy.

Animation as Work and Play

In contrast to the spontaneity involved in the sweep of a hand-held film or video camera, animation involves the accurate and meticulous creation of many frames of artwork per second of screening (often twenty-four for film), and these frames can be composites of many layered images. Although computer-based animation has created some production efficiencies—for example, automated in-betweening—animation itself remains a slow, laborious process. In 3D animation, highly skilled character modeling, texturing, rigging, and animation all require meticulous attention to detail. Rendering each individual frame—the computer's pixel-by-pixel calculation of each image from the data created by the animators—can take hours, even days, for complex scenes. Yet, whether we consider the factory-like production of a classic Disney cartoon or the contemporary computer-intensive pipeline of studios like Pixar or DreamWorks, we find animated production generates works renowned for playful spontaneity and exuberance.

Such playful spontaneity may be more prominent in directing animation rather than in actually drawing it; and much of the innovative mayhem emerges in preproduction stages like script and storyboard development. Outlining the fundamentals of animation direction, Chuck Jones (1990) points out that you "must respect the impulsive thought and try to implement it. You cannot perform as a director by what you already know" (101). Mistakes or unintended outcomes during production sometimes lead to creatively serendipitous detours. Jones asserts "inconsistency is the handmaiden of artistry, and the Warner Bros. directors, animators, and writers were indeed a laboratory for creative inconsistency, for anticipated mutations, for happy accidents—a primal soup to discover the delight of the undiscovered" (65).

It may well be worth looking at Disney, Warner Bros., and Pixar studios—and the contrasts in their output—to understand creative play in animation's busy work environments. The playful atmosphere at both Disney's original studio on Hyperion Avenue in Los Angeles from 1926 to 1940 and its newer studio in Burbank after 1940 impressed many visitors. The Disney studio in its heyday enjoyed a reputation as "a sparkling oasis of creativity and fun in the hard-nosed film industry" (Watts 2002, 165). Some described it as "a fun factory," and visi-

tors often commented on "the studio's integration of playful imagination with industrial efficiency" (Watts 2002, 167). Harry Carr of the *Los Angeles Times* wrote in 1931 that the Disney operation was a playful insane asylum. And in 1938, artist Arthur Millier declared, "It's a madhouse. That's what it is. And such a nice refreshing one in this congenitally nutty world." The image of the Disney studio "as democratic, collective, creative paradise" was frequently publicized (Watts 2002, 167). This idyllic view, however, was simplistic and misleading. Most visitors may have been enchanted, but a few—such as architect Frank Lloyd Wright—found the place appalling (Watts 2002).

Although play as part of a creative endeavor had a genuine place in early Disney production, as Walt Disney's ambitions expanded, "his concern for his employees had gradually metamorphosed into a suffocating paternalism" (Barrier 2008, 5). Walt Disney became obsessed with efficiency, and his language increasingly made reference to assembly lines, machines, and the productivity he needed for his "entertainment factory" (Watts 2002, 170). In American industry, Taylorism sought to break down repetitive tasks to their simplest elements to optimize efficiency, and Walt Disney applied Taylorism to animation production. Its application in this creative environment increased fragmentation and alienation at the expense of individual spontaneity and playfulness. By the 1940s, the number of employees had swelled from about two dozen to almost twelve hundred, and this huge expansion was accompanied by increased specialization. "Animators, for instance," writes Watts, "were divided not only into masters, assistants, in-betweeners, and clean-up artists but into those who drew characters and action and those who did layout and backgrounds" (166). As the studio became more specialized, it also became more bureaucratic, more automated and autocratic. The contentious workers' strike of 1941 highlighted the dystopian side of the story.

Walt Disney became increasingly notorious as a strict perfectionist who controlled virtually the entire animation process, and "the Disney style of animation that developed left little room for experimentation and individual creative touches" (Wasko 2001, 90). Despite this, even during the 1940s, there remained evidence of some enthusiasm and playfulness. As sketch artist Eldon Dedini noted, "there was a lot of in-house foolishness—which I think was wonderful, because, after all, that's eventually what had to show up on the screen. You almost had to be it to do it" (Barrier 2008, 198). But though animation teams could play with ideas, that creativity was subject to strict top-down control because "there was only one authority in that studio: Walt. That was the final signature on everything" (197).

Walt Disney believed in competitive creativity, and he constantly moved people around so that those with conflicting approaches worked together. "He kept his staff off-balance and committed to pleasing him by combining harsh criticism with plumb assignments" (Watts 2002, 173). His brusque comments could be devastating, and they were often "braced with reminders of the Disney corporate mission: all talents must be sublimated towards the greater good . . . towards a perfected illusion of movie-like elegance" (Klein 1996, 95). As the play became more controlled, this restrictiveness echoed throughout the increasingly synthetic aesthetic of the studio's output—for example, in bowdlerized versions of fairy tales such as the Brothers Grimm classic, *Snow White*.

In common with animators at Disney, those at Warner Bros. also experienced industrial-relations problems and joined strikes, but whereas Walt Disney was a hands-on perfectionist fanatical about detail, the management at what the anima- tors called "Termite Terrace" (originally a bungalow at the Warner Bros. Sunset Boulevard backlot) was more chaotic. Management can foster creative freedom in unexpected ways. Because Leon Schlesinger—head of Warner Bros. anima- tion department— focused on business and cared little for art, he left his direc- tors to play their own creative games. "By not giving a hoot," claims Bill Schaffer, "Schlesinger evidently created one of the most inspiring environments in which commercial cartoonists have ever had the privilege to work" (Schaffer 2002).

In his autobiography *Chuck Amuck* (1990), Chuck Jones gives a hilarious account of the difficulties experienced by creative workers such as directors and animators in dealing with producers, managers, and money men ignorant of the creative side of the business. Jones details the playful atmosphere among his colleagues and describes the Schlesinger studio as a place "ideal for this ill-paid, enthusiastic, frolicsome group." He describes a "peculiarly wild, unbridled qual- ity of the studio" that was not confined to animators. "Laughter is catching and extended clear to the front desk," where the receptionist answered the phone by identifying Schlesinger Productions as Pleasanter Seductions (61).

Studio boss Leon Schlesinger's "sole method of determining the quality of an animated cartoon was how far it came in under budget" (Jones 1990, 87). Jones tells of how, after eighteen years watching animators flipping drawings, the studio's business manager Ray Katz decided to flip, too. "With the enormous confidence born of sheer ignorance" Katz flipped through pages of a music score, "nodding and grunting his appreciation of the artistry therein." Every music score thereafter "was presented to Mr. Katz to be flipped for his endorsement and his professional and artistic approval" (71–72).

At first, the Schlesinger studios operated independently but distributed its works through Warner Bros. In 1944, however, Warner Bros. bought the studio, and afterward, Jack Warner installed Eddie Selzer as producer "following a diligent search of the studio to find out who hated laughter most" (Jones 1990, 87). Selzer abhorred innovation, and his "prime creative impulse" was to say no. Finding several animators laughing over a storyboard they were working on, he objected to their playful mood and demanded to know what laughter had to do with the making of animated cartoons (93). At MGM, animation producer Fred Quimby had a similar reputation for humorlessness.

But what less versatile people might view as obstructions to creativity, workers at Warner Bros. turned to creative advantage. Some animators thrived on this conflict and Jones (1990, 94) wrote that "creativity without opposition is like playing polo without a horse." It is no wonder that Warner Bros. cartoons are edgy and pugnacious in their anarchic humor, and they embody the work of "the aesthetically misunderstood and economically disenfranchised" (Crafton 1993, 227). Caricature, parody, satire, and various forms of subversive play are integrated in their output, and "however ostensibly harmless it may seem, caricaturing the boss and his milieu inevitably makes a statement about the animation staff's self-representation as employees, as members of the film industry, and as jesting outside observers of Hollywood society" (Crafton 1993, 204).

Leon Schlesinger unwittingly became the prototype for Daffy Duck (Jones 1990, 89–91). In *The Scarlet Pumpernickel* (1949), Daffy pitches a script to a barely disguised Jack Warner, "the paragon of creative encouragement." Daffy finally shoots himself in frustration saying "ya gotta kill yourself to sell a script around here" (Jones 1990, 169). A perverse reaction to adversaries and adversity could spur creativity and serve as part of the animators' armory. Producer Eddie Selzer's insistence that camels and bullfights were not funny gave rise to two of the best films made by the studio—*Sahara Hare* (1955) and *Bully for Bugs* (1953). And despite fighting against French-speaking skunks because he did not find them funny either, Selzer "gracefully accepted as his right the Oscar when Pepé Le Pew won in 1950" (Jones 1990, 93).

In their use of caricature and in their parodies of live action and animation studios, the animators mounted "a symbolic resistance." In such circumstances, "play may be thought of as a kind of grievance syndrome, one which transcends the grievance by its own absurd and funny character" (Crafton 1993, 227). At heart, Sutton-Smith (2008, 96) argues, play is "always a kind of transcendence."

Extrinsic reward was rare at Warner Bros. and poor pay, unappreciative

management, and hijacked Oscars were standard practice. One of the hallmarks of playfulness is its intrinsic motivation. Playfulness fuelled what the directors and animators created, and they did not look outside themselves for reward or inspiration. Although they were not allowed to preview their films or study ratings at Warner Bros., the young Chuck Jones did try to study audiences, "making notes and timing laughs and applause." But the more he did so, the worse his cartoons grew. He gave up this extrinsic focus and just made the cartoons he enjoyed making. His best work emerged from having fun. "Like all our distinguished forebears, we made pictures for ourselves, believing with childlike innocence that if we laughed at and with each other, perhaps others would follow" (Jones 1990, 219).

If Disney exemplified a tendency to control freakery and Warner Bros. exemplified successful creative play in spite of the best efforts of its management, then the contemporary studio Pixar may come closer to the right balance between work and play. After the acquisition of Pixar by The Walt Disney Company in 2006, Pixar's majority shareholder, Apple Computer's Steve Jobs, became the largest individual shareholder of Disney. Pixar's John Lasseter and Ed Catmull were put in charge of Walt Disney Animation Studios. Although many commentators forecast that Pixar's working ethos would change, if anything, the principles and approaches developed at Pixar transformed Disney (Catmull 2008, 10). Based in Emeryville in the San Francisco Bay Area, in a studio designed by Jobs to increase interplay between employees and "to maximize inadvertent encounters" (9), Pixar seemed distant from Hollywood, too, in ethos. Most of Pixar's employees are long term, and they move from project to project, in contrast to other studios where a small core of regulars is bolstered by freelancers only after production begins (Lehrer 2010). Catmull (2008) sees Pixar's method as "the antithesis of the free-agency practices that prevail in the movie industry" and adds "but that's the point; I believe that community matters" (3).

Pixar creates its own stories; none is an adaptation. Unlike Disney, Pixar is also auteur based: directors such as John Lasseter, Andrew Stanton, and Brad Bird call the shots and indulge their own styles. Here, at least for now, the "creatives" seem to trump the "suits." True, they tend toward commercial perfectionism at Pixar reminiscent of Walt Disney himself but without his authoritarianism. Perhaps, then, not so surprisingly, Pixar still enjoys a reputation as the model for a playfully creative working environment.

Capodagli and Jackson (2009), in their tribute to Pixar titled "The World's Most Creative Corporate Playground," describe the studio as "a theatrical play-

ground, where art, science, and programming can be combined in a harmonious symmetry" (27). In the post-Fordist creative and cultural industries, playful workplaces receive a lot of publicity. So Pixar earns wide recognition for its encouragement of play, casual work atmosphere, free classes, flexible hours, and abundance of games, social activities, and public outings (Cohen 2009). On the surface, Pixar seems to take advantage of the best but avoids the worst of the old studio systems. But, as with Disney back in the 1930s, all may not be as it seems. One has to be wary of such glowing publicity.

"'Fun' is not neutral ideological turf," claims Donald Crafton. "It may divert analysis and defuse 'serious' interpretation, but a closer inspection always highlights fundamental relationships about economic power and social control" (Crafton 1993, 204). Although new workplaces like Pixar's may have eliminated the worst excesses of Taylorism, they may not be quite so fun filled and utopian as the likes of Capodagli and Jackson imply. Flexible hours can mean all hours, and the workplace that offers "extended work and play, which become indistinguishable" creates a "blurring of boundaries that can be understood through a conception of the social factory" (Cohen 2009, 76). For self-regulating workers, pressures are covert, and in social-factory environments some creative workers have been "disciplined through a workplace culture for which being 'fun' and funny was a mandatory requirement" (79–80).

Companies like Pixar "can tap into bohemian and artist culture and mirror the nontraditional lifestyle habits of creative workers in the office. If creative and cultural laborers view work as an extension of their chosen lifestyle, work will be seen in the same way they view art: as sacrificial labor" (Cohen 2009, 77). Catmull (2008) admits that on 1999's *Toy Story 2* "everyone working at the studio at the time made tremendous personal sacrifices . . . we asked our crew to work inhumane hours, and lots of people suffered repetitive stress injuries" (5).

Many Pixar movies are thematically anticorporate, environmentally conscious, or otherwise counterculturally oriented. Play theorist Pat Kane, author of *The Play Ethic* (2004) and a blog of the same name, attributes this bias to a "persistent overlap between counterculture and cyberculture." Nevertheless, Pixar may be hoping to have it both ways, well known as it is for commercialism, merchandising, and product placement. Critics of its films point to "the Pixar paradox/hypocrisy—these vast, thoroughly commercialized and marketed 'event' movies preaching about the balance of nature, the primacy of relationships, the tawdriness of capitalist modernity" (Kane 2009).

A distinct correlation exists between the kinds of creative play fostered at a

studio and the playful aspects of the studio's animated oeuvre. The early Disney studio created playfully innovative, irreverent, sensual, even racy films, and "the multimorphic gags lent themselves quite well to a polymorphous perversity" (Klein 1996, 36). But as the studio became more automated and autocratic, the cartoons became increasingly more mimetic and nostalgic; the characters, cuter and safer; the values, more sanitized and conservative; and the aesthetic, more rule bound and restrained. Increasingly at its Burbank studios, art imitated life, at least in terms of the freedom to play.

Over on Sunset Boulevard, the Warner Bros. style lampooned both Hollywood, in general, and Disney in particular, and it became "inseparably a parody of Disney's aesthetic, narrative, and moral proprieties" (Schaffer 2002). Ironically, not everyone was aware of this, and according to Chuck Jones, the Warner brothers themselves numbered among the uninformed. Harry Warner once told animation directors at a meeting that he had no idea where the cartoon division was located, adding that "the only thing I know is that we make Mickey Mouse." Having been assured by animation directors that they would keep Mickey at the peak of popularity, Jack Warner suggested it would be healthier for their future if they did so. When the brothers shut the studio in 1963, Fritz Freleng the animation director, claimed it was because they had been shocked to discover they did not make Mickey Mouse after all (Jones 1990). Little surprise, then, that Warner Bros. cartoons reflect the anarchy of Termite Terrace and that, through caricature, parody, and quasi-violent mayhem, they signify playfully channeled riotous indignation at corporate philistinism and mismanagement.

In contrast to Disney, Pixar tries hard to be an alternative "director-and-producer-led meritocracy" (Catmull 2008, 8), but "Pixar films have consistently tended to convey an ideology that is rather similar to the mainstream ideology of Disney films, especially in their emphasis on the importance of naturalness and authenticity" (Booker 2010, 78). And latterly, Pixar's output of highly successful, technologically innovative, and slickly told stories mirrors the studio's alternative workplace ethos through a playful perfection that subtly commodifies countercultural ideas without being in any way subversive, edgy, or avant garde.

Narrative, Play, and Naturalism

The argument about the merits of naturalistic art as imitation versus art as free-form expression goes back a long way. Naturalism—sometimes loosely

called realism—constitutes an aesthetic that privileges imitation (or audiovisual verisimilitude) and seeks to minimize the evidence of its artificial or constructed nature. Comparative-literature scholar Mihai Spariosu (1989) differentiates between an older, pre-Socratic, prerational notion he calls *mimesis-play* and a more modern, rational notion of *mimesis-imitation*: "Through mimesis-play, power presents itself as the free, spontaneous and violent play of physical Becoming; through mimesis-imitation it re-presents itself as Being, Reason and immutable Order" (19). The complex and nuanced interplay between these forms of mimesis remains always in flux, and modern concepts of art and play include elements of each. "These two branches may engage in a relentless feud," says Spariou, "each seeking to subdue or repress the other, but their victory or defeat always proves to be temporary or inconclusive: the vanquished may often stage a strong comeback, retipping the scales in its favor" (23). Spariou could be describing Tom and Jerry.

This contrast in modes of play applies not just to humans. Observing animal play, Martinelli (2004) differentiates between simulative play, in which we see the occurrence of imitative patterns in play, and play that is more free form or autotelic, in which play is internally motivated, engaged in for its own sake, and not goal oriented. He gives as examples the "exuberant and redundant playful displays, such as leaping, gamboling, and twisting in the air" (89–90). Such spontaneous play keeps free of the need for a serious behavioral pattern to deconstruct and reconstruct.

However, these modes of play intertwine dynamically. The playful mind lies ever present, even in mimesis-imitation; so, although naturalism involves imitation, it does not usually involve an exact copy of the real. In play, claims Martinelli, "the behavioral pattern related to the real need is not faithfully imitated, but rather deconstructed, reconstructed, reduced, added with more elements, until the final outcome is something analogous, but definitely not homologous to the original 'serious' pattern" (89). Play constitutes a "decoupling of the real" to explore and master possibilities (Boyd 2009, 180); although naturalism involves play, these possibilities can be explored more freely and playfully outside the constraints of a naturalistic aesthetic.

If we take the playful to mean "that which plays with the frames of play," as Sutton-Smith (1997, 148) suggests, then we can consider most animation to lie somewhere on a continuum between, on the one end, that which aspires to the play of mainstream cinema and, on the other, that of a more playful aesthetic free to play with everything including the frames or conventions of

cinema itself. The impact of this dichotomy can be profound because "freedom from the denotative photograph or film is essential to the cartoon, and often noted by animators, viewers, and critics alike. When live action becomes the model instead, the freedom is reduced almost immediately" (Klein 1996, 17). Cinematic naturalism and the tendency to mimic the structural convention of a strong narrative arc in a feature-length format are two conventions that act as constraints on free-form play. They are related because both aspire to a mainstream Hollywood aesthetic. The archetype of this tendency remains Disney, who having produced innovative, short, playful animation early on, ultimately released feature-length, animated movies, the first of which was *Snow White and the Seven Dwarfs* (1937).

The modern Hollywood feature (both live action and animation) has a well-defined dramatic structure usually fixed around a conventional narrative arc. This theory of dramatic structure goes back to Aristotle's *Poetics.* But early character animation owed less to the three- and five-act structures of high-brow drama than to graphic narrative, whose primary responsibility was to "surface, rhythm, and line" (Klein 1996, 5). It also borrowed heavily from the relatively unstructured variety of vaudeville and from its successor, the silent film and such comedians as Charlie Chaplin and Buster Keaton. Klein also points out that "what cartoons borrowed most from vaudeville was its fractured use of story" (29). Protonarratives are a common phenomenon in play, and "play, both as repeated behaviors and as repeated stories, arises from an undifferentiated state" (Sutton-Smith 1997, 164). Early cartoons involved what Henry Jenkins (2005) calls—in a video games context—micronarratives. They consisted of stock characters, gags, slapstick, repetition, and playfulness. "Comedy and play," writes Miriam Bratu Hansen (2011), "have in common the principle of repetition. As many writers have pointed out, comic modes—irony, parody, satire, sight gags—work through quotation and reiteration" (27). Indeed, critic and theorist Walter Benjamin advocated a new theory of play explicitly to explore the fundamental law of play: the law of repetition.

Early animation was free not only from the strictures of the narrative arc but from the constraints of character development. Much as the seventeenth-century European Commedia dell'Arte employed identifiable masked characters, early cartoons had stock figures. These zany folks engaged in gags, chases, and slapstick give-and-take. They were free of narrative constraints such as emotional motivation and character development. "Instead of rules about motivation," says Klein (1996), "they live by a limited cartoon version of the Geneva Con-

vention—rules on how to conduct war on a flat screen. And these rules usually emphasize the medium, not the story" (38).

But for some animators in the early 1930s, the world of thematic repetition, gags, fractured narratives, and play with the medium had become passé, and their new aspirations gave us a golden era of Hollywood and its feature-length naturalistic narratives. By 1934 Walt Disney, deciding the future lay with cinematic naturalism, moved away from gag storytelling toward feature-length storytelling with a strong narrative arc (Klein 1996).

Narratives typically require sophisticated structure. Contemporary narratives often rely on formulaic structures, such as the kind of hero's journey talked about by Joseph Campbell, which make for a lack of originality (McClean 2007). This tendency appears in contemporary animated features particularly. I am not suggesting that naturalistic feature-length storytelling through animation is not play, but rather that it involves a different, more constrained and mimetic kind of play that privileges audiovisual verisimilitude, character development, narrative coherence, and the aetiology (cause and effect) of plot structure in contrast to a more playful, loosely structured, idiosyncratic, experimental, or spontaneous exploration of the medium. Conventionally structured narratives can be playful, but only within the constraints of the story; more loosely structured scenarios allow freedom to play with our expectations of narrative, character, and the medium itself.

How Animation Communicates as Play

However tempting it may be to try to develop a taxonomy of animated play, the truth is that because play is multifarious, protean, and unpredictable, any attempt to classify it may be Sisyphean. Each era, studio, genre, director—indeed, each animated film itself—could be analyzed in terms of play. As Ed Catmull (2008), cofounder of Pixar, puts it, "A movie contains literally tens of thousands of ideas. They're in the form of every sentence; in the performance of each line; in the design of characters, sets, and backgrounds; in the locations of the camera; in the colors, the lighting, the pacing" (3). And that actually understates the plurality and profusion of ideas in play.

But by focusing on animation as a form of communication and play as a mode of metacommunication, we can see how we are drawn to engage differently with playful works than with others. Sutton-Smith (1997) views playful-

ness and play as metacommunicative and play as "a kind of communication (a mode)" as well as being a kind of action (23). In other words, play (either live or mediated) cues playful engagement and communicates doing so through its own ludic signification.

Recent work on the social semiotics of imagery offers a model of how visual communication works, one I suggest that can be equally applied in audiovisual contexts. Developing ideas from German sociologist and philosopher Jürgen Habermas and French sociologist and anthropologist Pierre Bourdieu among others, Kress and Van Leeuwen (2006) outline four coding orientations that modulate modality markers or cues within specific social contexts. In other words, our expectation and appreciation of attributes of imagery is context dependent. The authors label these four orientations naturalistic (in which we value realism or audiovisual verisimilitude); technological (in which we look for efficiency or technical accuracy); abstract (in which we value generalizations or abstractions); and sensory (in which we value the pleasure of sensory effect). This last mode is somewhat broad and encompasses much of what we consider art. These modes are not always mutually exclusive. Abstract art, for example, spans the last two modes, and traditional art encompasses the first and last.

Adapting these ideas, I suggest one more orientation or mode worthy of distinction—that orientation is ludic or playful. Play is metacommunicative, and a playful work communicates its own playfulness. Just as a naturalistic work says, in effect, "this is real," and a technological work says "this is accurate," a playful work says "this is play." As Sutton-Smith (1997,) puts it, play is "an attitude or frame that can be adopted towards anything" (23), and the message is "this is play" (see figure 2).

This model enables us to make comparisons not just between playful and technical works but to make more meaningful comparisons between live-action cinema and animation, between films from the same studio, different animated works, or even different aspects of a single animated work. And because orientation is dependent on social context, it also helps us understand why, for example, an audience might watch a Pixar film in playful orientation but a 3D animator might focus instead on its technical proficiency.

Early Disney was very much in ludic mode, and early Mickey Mouse embodied the "dream of plasmatic freedom" so admired by Russian film theorist and director Sergei Eisenstein and his contemporaries in the avant-garde (Sobchack 2008, 262). But as Disney increasingly aspired to cinematic mimesis, the cues for a naturalistic orientation became far more prominent (e.g. feature-

Naturalistic	Technological	Abstract	Sensory	Ludic
examples of high modality markers (cues for high value)				
photorealism	accuracy	accuracy	expressiveness	humor / ingenuity
perspective	legibility	organization	sensory design	metamorphosis
motion capture	denotation	formal design	connotation	anthropomorphism
recorded sound	selective detail	selective color use	symbolism	exaggerated sound
documentary style	restrained color		metaphor	caricature / parody
full color			defamiliarization	game / frameplay
cinematic codes			ambiguity	paradox / absurdity
illusion of life			synesthesia	inventive physics
				creative destruction
				dynamism / fluidity
				creativity / fantasy

Figure 2. Coding orientations, modality markers, and cues (adapted from Kress and Van Leeuwen 2006).

length full animation, perspective, shading and shadows, and more realistic sound). As a consequence, the plasmatic freedom of playfulness diminished. Anthropomorphs became cuter; humor, safer; and distortion, more muted. There was little room for effects that might distract from immersion in the story world. During the classic Disney period, cues for play still existed, but they were diminished under Disney's direction from the ludic to the naturalistic.

For Warner Bros., this change at Disney left a gap in the market for more playful animation that parodied, among other things, the new Disney style. In *Dionysus Reborn*, Mihai Spariosu (1989) recounts the ancient and ongoing struggle between rational or Apollonian forms of play and more chaotic, irrational, or Dionysian forms of play (Sutton-Smith 1997). If live-action film embodies the former and classic Disney aspires to that, then Warner Bros. classics are Dionysian in their playful anarchy. Warner Bros. animators play up the antics and plasmaticness of their characters and play down the seriousness of cartoon consequences. Interplay occurs between foreground and background, characters

and creator, animated actors and audience. Unlike those at Disney, Warner Bros. animators cared little for matching cinematic naturalism and remained defiantly in playful or ludic mode.

Umberto Eco originally coined the term *hyperrealism*—in reference to Disney theme parks—to describe realistic renderings of unreal or fantasy scenarios. Paul Wells (1998) suggests that classic Disney is the yardstick for hyperrealism in animation. Hyperrealistic animation is virtual unreality—while being perceptually realistic, it is referentially unreal, and it cues both naturalistic and ludic orientations at once. It references cinema rather than any ontological reality, and the shortcomings of cinematic technology—motion blur, depth of field, and lens flare—are often included as naturalistic cues.

A hyperrealist aesthetic—whether classic Disney or 3D CGI—tends toward audiovisual verisimilitude; but in such selective modes as comedic structure, witty dialogue, parody caricature, fantasy settings, and anthropomorphic characters, it retains playful cues. Humor, parody, and fantasy are common both to live action and animation, and so too is caricature and exaggeration, although these are usually more restrained in naturalistic modes. Anthropomorphic personification, on the other hand, is uncommon in live action. But it so pervades cartoon and 3D feature animation that it has become virtually synonymous stylistically with them. Anthropomorphism is metaphor personified, and anthropomorphs like Mickey Mouse and Daffy Duck are signs that point playfully in more than one direction at once. Elsewhere I argue that these signs "can play and resonate on any number of aesthetic levels: creative ambiguity, defamiliarization, play of representation, imagination, symbolism, appeal to children, fantasy, surrealism, the uncanny, humor, shape shifting or morphing, magic realism, subversion, irony, satire, jouissance" (Power 2008, 37).

Studios such as Pixar and DreamWorks specialize in a contemporary hyperrealist aesthetic, a synthesis of naturalistic and ludic modes. In 3D animation, cues generally are interpreted through the dominant culture's common-sense, naturalistic coding orientation, with its high modality aspiring to naturalism. Stylistically, most 3D CGI features favor high modality cueing for movement (e.g. motion capture data), high modality dialogue soundtracks (high profile actors), relatively high modality cueing for form (detailed but stylized 3D character models), and low modality characterization (e.g. talking tortoises or dancing penguins). Synthetic reality effects are often uneven, and some signifiers of realism—for example stereoscopic depth—are high modality naturalistic cues that might compensate for others, such as stylized human form. Due to our

cognitive sensitivity to the latter, lower modality stylized cues can be more aesthetically effective, and they are less likely to cue dissonance as in, for example, the uncanny valley effect (Eberle 2009; Power 2008).

An animator might aspire to a particular aesthetic in any of several different modalities: through treatment of form, music, dialogue, lighting, color, movement, setting, and narrative dynamics; or through the complex isomorphic or metaphoric interplay between these (Power 2009). Cues can apply in any modality, for example, with caricature or exaggeration, or with the human responses to color, motion, form, depth, sound effects, and voice—all of these are susceptible to exaggeration effects. Such effects can in turn be amplified by creating a harmonious or contrasting interplay between different modalities, often involving metaphor.

Cross-modal metaphor involves the interplay of similarities between sensory inputs, and it is often salient in animation. Such cross-modal metaphoric and metonymic associations might enable a staccato sound to resonate with sharp edges in imagery or evoke edginess as a feeling. Discussing the semiotics of feeling, Arnold Modell, a Harvard professor of psychiatry, argues (2006) that the connections among sensation, emotion, feeling, and meaning are based primarily on the cross-modal associations of metaphor and metonymy and they not only transfer meaning but transform it. In contrast to live action, animation offers exquisite if painstaking control over cross-modal interplay. So, for example, the energy inherent in a hand-drawn character can echo inner emotion, or the violent obliteration of a cartoon character can be transformed into hilarity, or talking ducks or tap-dancing penguins can empathetically become ourselves.

However, many modes of playfulness—some of them synonymous with animation—are avoided in hyperrealist animation if they might interfere with a viewer's immersion in the story. These tend to be cues that playfully draw attention to the constructed nature of the story world, to the rules of the game, and to what is in play. Such cues include metamorphosis, cartoon physics, the nonnaturalistic use of sound and metalepsis (a paradoxical transgression of the boundaries between worlds, e.g. interaction between character and animator).

Stability of form is a cinematic convention, but play with form through metamorphosis is "a key aspect of the animation vocabulary" (Wells 2007, 14). For Sergei Eisenstein, the protean play of plasmaticness was associated with Proteus—Greek mythology's champion shapeshifter—and was characterized by the animated film. Eisenstein saw plasmaticness as the "rejection of once-and forever allotted form, freedom from ossification, the ability to assume any form"

(Solomon 2000, 16). Metamorphosis is form in play not just through movement but through metaphorical becoming and transformation. It is "condensed magic realism" (Klein 2000, 22), and although many animation studios (including early Disney) embraced its magic, Disney grew to mistrust it "if it made the animator's drawing too obvious" (25). Despite the protean possibilities opened up by digital technology, form tends towards stability in 3D animation too. As I note elsewhere, "3D CG is modular and object-oriented (both under the hood and in the animation process), making 3D metamorphosis, figure-ground reversals and some distortion effects difficult, even counter-intuitive" (Power 2009, 119). If these are attempted at all, it often occurs in 2D postproduction.

Cartoon physics have become a playfully perverse convention of cartoon animation, and they run counter to naturalistic experience and expectation. Both Warner Bros. and MGM cartoons were famous for them. Many are credited to Tex Avery, renowned Warner Bros. (and later MGM) director and Chuck Jones's mentor. Avery was "fascinated by the limitless possible extensions of the medium. He simply ignored all the physical laws of the universe, with perhaps, an occasional nod to the law of gravity" (Jones 1990, 102). Stephen Spielberg admired Chuck Jones, too, for breaking all the laws of physics "just for the joy of it" (9), but these playfully unnatural cues are usually avoided in hyperrealist animation.

Ludic use of sound is another signifier of playful animation. For Chuck Jones, sound effects were often illogical, and playful and ingenious incongruity between image and sound effects led to hilarious results in many of the Warner Bros. cartoons. Again, this zany and exaggerated use of sound appears relatively rare in more realistic animation. Indeed, sound design is prone to adopting more realistic sound recording to heighten audiovisual verisimilitude.

Narrative metalepsis is a paradoxical interplay between the world of the creator and that of the created. It is definitely not part of a hyperrealist aesthetic because it draws attention to the synthetic nature of storytelling. A typical metaleptic trope of cartoons shows the artist's or animator's hand appearing on-screen to interact with the characters. Such a narrative device goes against the grain of naturalism, but it has often been employed in playful animation—in the Fleischer Studio's *Out of the Inkwell* series, in Chuck Jones's *Duck Amuck* (1953) for Warner Bros., and in the more recent *La Linea* series by the Italian cartoonist Osvaldo Cavandoli.

Hyperrealism usually avoids these playful modes of animation. Hyperrealist animation seduces its audience with a believable story world. Each audience

member becomes immersed in the play of a perceptually realistic world of fantasy, an active participant in its virtual unreality.

The Audience at Play

We can easily conclude that visitors to Disneyland engaging in animation-related leisure activity are at play. And, we can as easily imagine animated video game users as players or that children interacting with animation-related toys are also playing. What they have in common is that they are physically and interactively engaged and that they themselves are animated. It is not so easy, however, for us to see movie (or television) audiences in the same light precisely because play is an active phenomenon, and the audiences seem to be doing little more than passively consuming audiovisual entertainment. However, the receiver on the couch "is never being just a potato" (Sutton-Smith 1997, 146), and his or her brain, if not his or her body, is actively at play. Social and audience engagement have much in common (even for someone watching television) because "similar cognitive and emotional processes underlie important aspects of our sociality and our ability to immerse ourselves in imaginative situations" (Stromberg 2009, 14).

As Jennifer M. Baker (2009) observes, "The active, embodied encounter between film and viewer" is central to "grasping the emotional, intellectual and thematic aspects of any given cinematic experience" (15), and an audience or individual response to film or animation can involve play in several respects. Sutton-Smith (1997) points out that passive responses to play are also a reactive means of engaging in play and that our concept of play should include "passive or vicarious forms as well as the active participant forms" (218). Cognitive responses to stimuli in our environment are never passive as such, and artworks constitute hyperstimuli specifically designed to attract and engage our active attention. "A work of art," writes Brian Boyd (2009), "acts like a playground for the mind, a swing or a slide or a merry-go-round of visual or aural or social pattern" (15).

Viewers, consumers, and members of an audience engage with and respond to cues within an animated film designed to elicit specific cognitive and emotional responses. These playful cues (patterns in form, movement, sound, and so on) are embedded in the artwork, the animated film. And the animators, directors, and other creative workers in a studio have designed these patterns

specifically and meticulously to elicit such responses. "Minds are bundles of expectations" (Boyd 2009, 330), and playing with these expectations is the primary modus operandi of everything from peek-a-boo to stand-up comedy and animated narrative. Each audience member's response is unique, and responses to playful stimuli are as individually nuanced as the variability of the human mind at play might suggest.

One modernist thinker, the cinema and cultural critic Walter Benjamin, saw audiences as players. In his famous 1936 essay "The Work of Art in the Age of Mechanical Reproduction," he extends the concept of play to the "behavior of the spectating collective in front of the screen, including involuntary, sensory-motor forms of reception" (Hansen 2011, 8). Benjamin saw mass audiences as being engaged in and innervated by "mimetic reciprocity and play" (32). With cartoon animation and comedy as its most playful manifestations, film—according to Benjamin—functions as a modern play-enabling form of technology that helped offset some of the alienating effects work-related technology has on human beings. Benjamin, who died while fleeing the Nazis in 1940, believed in "the possibility of a technologically mediated aesthetics of play capable of diverting the destructive, catastrophic course of history" (Hansen 2011, 30), and he saw collective laughter as empowering and therapeutic. Thinking of cartoon animation in particular, he wrote that "films provoke this laughter not only with their 'grotesque' actions, their metamorphic games with animate and inanimate, human and mechanical traits, but also with their precise rhythmic matching of acoustic and visual movement," and the active aesthetic response results in "a reconversion of neurotic energy into sensory affect" (29–30).

The beneficial effects of entertainment as play are perhaps not as clear-cut as Benjamin might have hoped. With the large-scale industrialization of leisure and amusement, play became an object both of mass production and consumption. "What we disguise or dismiss as amusement has important social implications" (Stromberg 2009, 24), and the serious business of animated cartoons highlights the important issue of play both as commodified amusement and pervasive ideological influence. "Our society has developed a powerful cultural technology for generating compelling symbolic forms; we call these forms entertainment," (20) and entertainment works "to create and sustain many of our culture's fundamental ideas, practices and values" (8). Just as audiences play, they can also be played, and "the transgressive, transformative potential of play and the transformation of such excess into surplus value cannot always be easily distinguished" (Hansen 2011, 14).

Recent neuroscientific advances help us understand how the seemingly passive viewer can become actively engaged in play in response to audiovisual stimuli. Research into the brain's mirror neurons shows just how active seemingly passive or responsive behavior can be. Mirror neurons are active in several regions of the brain, which neuroscientist Christian Keysers (2011) calls *shared circuits.* Keyers describes the function of these circuits as mirroring or simulation. "Imagining actions, viewing actions, and hearing the sound of actions" are all examples of simulation (66), and shared circuits "are probably an essential part of sensing what happens to other people and objects" (124). These circuits mirror animated action, too, and our brains actively simulate and respond to audiovisual representations of character actions, facial expressions, feelings, and touch. We have active visceral responses to texture, sound, color, movement, mood, and line energy. "Shared circuits lead us intuitively to anthropomorphize or even egomorphize the world around us" (124) and help explain how audiences get caught up in bringing animated characters to life. Echoing both the title and the theme of writer Michael Frayn's *The Human Touch: Our Part in the Creation of a Universe* (2007), Keysers (2011) argues that "Our own actions and sensations are the only ones we really know. Using them for mirroring all things is . . . but the humble egocentric predicament of someone who knows no other actions or sensations but his own" (125).

David Freedberg, professor of art history, and Vittorio Gallese, professor of human physiology, suggest that simulation underpins aesthetic experience in many diverse respects—in simulating actions and intentions, in manipulating objects, emotion, and sensation, and in the implied gesture. Even a still life can be animated by "the embodied simulation it evokes in the observer's brain." Automatic empathetic responses and the process of embodied simulation that underpins them enable "the direct experiential understanding of the intentional and emotional contents of images" and are consequently "essential to any understanding of their effectiveness as art" (Freedberg and Gallese 2007, 202). Simulation theory also suggests that the quality or energy of the artist's gestures embedded in the work can induce empathetic engagement through active simulation. It holds that "visible traces of goal-directed movements" will activate the mirror-neuron system (202). The authors describe this as "feeling the movement behind the mark," and it helps explain for us some of the aesthetic appeal of expressive work that foregrounds drawn strokes or gouges or other physical signs of the human energy involved in the artwork. In semiotic terms these artifacts might be termed indexical signs because they point to a

causal connection. Quality and energy of line evoke the play of the animator behind the mark, and this affective trace of the human touch proves difficult to replicate in 3D animation.

Members of an audience can often respond more actively when an animated film's imagery is less realistic and more expressive or playful. Neuroscientist Vilayanur Ramachandran's (2004) neuroaesthetics principles such as peak shift (exaggeration or caricature), isolation (expressive abstraction), metaphor, and problem solving, all salient in animation, point to how an expressive or ludic aesthetic can facilitate cognitive, creative, and emotional engagement. Ramachandran's concept of isolation, for example, parallels comic artist Scott McCloud's (1994) idea of amplification through simplification and to the minimalist-design aphorism that less is more. With cartoon animation, the *less* applies to realistic detail and visual noise and the *more* to synergy of imagination and playful possibility that stimulates the brain. The founder of the field of neuroaesthetics, Semir Zeki (2004) quotes Schopenhauer "in art the best of all is too spiritual to be given directly to the senses; it must be born in the imagination of the beholder, although begotten by the work of art" (189–190). Schopenhauer concludes that this is why artists' sketches can be more affecting than their finished works.

This less-is-more phenomenon works to the advantage of expressive over realistic imagery because the brain becomes more actively responsive when more is left for the imagination. Stylized or expressive imagery can isolate and accentuate rhetorically, guiding and focusing attention by amplifying the intended effect. And through metonymic and synesthesic resonance, it can act as a multimodal hyperstimulus for the mind, one capable of encapsulating a synergistic essence in a blended aesthetic gestalt. Active audience engagement can be intensified by these effects, and Zeki (1999) argues that artistic hyperstimulation of areas of the visual cortex through playful or expressive cues—such as use of creative ambiguity—expands the viewer's imagination and invites active participation in constructing meaning.

Members of an audience often become caught up in animated play. Stromberg sees being caught up in entertainment as a form of play in which we engage actively in extended imitation. This involves embodying and experiencing alternative perspectives through rhythmic entrainment and mimicry and results in emotional contagion and absorption (2009, 96). Far from being a couch potato, the audience member or viewer is constantly at play. Ludic or playful cues in animation are especially designed to evoke this responsive play.

Conclusion

For over a century now, cartoon and character animation have been a vibrant aspect of our cultural environment and a staple of our creative economy. We find it increasingly difficult theoretically to separate animation from live-action film as they often constitute hybrid aesthetics (Manovich 2006). Although pure animation cannot usually match live action's imitation of reality, it has alternative strengths, especially for those who opt for a more playful aesthetic. As animation producers John Halas and Joy Batchelor put it, "if it's the live-action film's job to present physical reality, animated film is concerned with metaphysical reality—not how things look, but what they mean" (Wells 1998, 11).

Animation is a creative playground for the mind designed to engage our minds in reciprocal play. Just as play is the essence of creative flexibility and variability, there are infinite ways we play. There are a myriad of means, too, by which animation plays with our expectations of reality, cinematic realism, and representation—indeed, of animation itself. Animation plays with space, time and form; it defies the laws of physics, makes articulate the ineffable, and animates the inanimate; it enacts the invisible, the fantastical, and the impossible; it exaggerates, simplifies, subverts, warps and energizes through subtle connotation, nuance of design, and quality of line; and it playfully subverts the mainstream culture of the moving image by drawing attention to its own constructed nature. Norman McLaren, the legendary avant-garde animator, insisted that "animation is not the art of drawings that move, but the art of movements that are drawn" (Jones 1990, 180). Its essence is its movement, its dynamism, and its play. And most of all, it moves its audience, to wonder, delight, mirth, and laughter.

Members of an audience oscillate between being caught up in the experience and being aware of being caught up. Such phenomena are often described as *liminal*, a term made popular by cultural anthropologist Victor Turner and used in many disciplines to describe a thing or an entity whose essence is process, transformation, or becoming. Turner (1977) saw play as the essence of liminality; it might involve "a play of ideas, a play of words, a play of symbols, a play of metaphors. In it, play's the thing" (34). All forms of art, indeed all media, are liminal. They are, by definition, intermediate spaces—the threshold, the interface, the enigmatic play space in which creator and consumer, artist and audience meet at play (Power 2011). Animation, for its audience, is always in play. It exemplifies liminality by the time-based nature of the medium, the process

of in-betweening, the ubiquity of anthropomorphic characters, the dualities of reality and fantasy, earnestness and frivolity, and sense and nonsense. It is liminal in the ambiguity of figure and ground, the transformations of morphing and shape-shifting, the plasmatic and protean possibilities of the line, the interplay of cross-modal metaphor and metonymy, the reflexive interaction between animator and animated, and the myriad possibilities for playful transformation.

This brings me back to the original paradox, that play is at the heart of animation, a most painstaking and laborious art, and to the conclusion that the creative dynamics of playfulness help bring animation to life both for animator and audience alike. "World is crazier and more of it than we think" wrote poet Louis MacNeice in *Snow* (1935) as he felt "the drunkenness of things being various." At its most playful, animation not only entertains us, but offers real insights into this crazy world of process, possibility, variability, and play.

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