Digital Gambling: The Coincidence of Desire and Design

By
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Drawing on ethnographic research conducted in Las Vegas among game developers and machine gamblers, I correlate a set of digitally enhanced game features with phenomenological aspects of gamblers' experience, demonstrating the intimate connection between extreme states of subjective absorption in play and design elements that manipulate space and time to accelerate the extraction of money from players. The case of the digital gambling interface exemplifies the tendency of modern capitalism to bring space, time, and money into intensified relation and sheds light on the question of what might or might not be distinctive about the rationalities and libidinal investments of the "digital age."

Keywords: technology; ethnography; gambling; culture; digital age; capitalism; modernity

What I want to do is get into my playing rhythm, stay there longer and just play.

—Maria

The three-reel mechanical slot machine that served as a blueprint for gaming technology since the 1890s was transformed by electromechanical technology in 1963 with the introduction of the hopper, an internal payout device adapted from bank coin counters. The advent of video games in the 1970s led to the replacement of reels and levers with screens and buttons. In the 1980s, the digital microprocessor (a computer chip with memory) was incorporated into the slot machine as a means of regulating the

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hopper and other functions. The most critical component of the microprocessor for gambling machines is the random number generator, or RNG, which runs through number combinations at high speed until the play button is pressed, whereupon it generates a number combination, compares this number to a statistically determined table of payout rates, and instructs the hopper to deliver a win or not. Some in the industry call the RNG the "really new god."

In recent decades, the gaming industry—formerly known as the gambling industry—has established itself as an engine for experimentation and innovation with emergent digital capabilities, producing military-grade surveillance networks, sophisticated systems of accounting, and sleek gaming machinery. In this article, I focus on the design and play of digital gambling platforms to illuminate the distinctive rationalities and libidinal investments of the "digital age." Drawing on ethnographic research conducted in Las Vegas among game developers and machine gamblers, I correlate a set of digitally enhanced game features with phenomenological aspects of gamblers' experience, demonstrating the intimate connection between extreme states of subjective absorption in play and design elements that manipulate space and time to accelerate the extraction of money from players. The case of the digital gambling interface exemplifies the tendency of modern capitalism to bring space, time, and money into intensified relation and sheds light on the question of what might or might not be unique about the digital age.

Digital Game Design

Technology provides managers unprecedented means for orchestrating resources, due to emerging capabilities in communications, connectivity, and interoperability.
—Cummings and Brewer (1994, 69)

The publications of gaming industry analyst Leslie Cummings on techniques of casino management echo those of Frederick W. Taylor written earlier in the century on the scientific management of the workplace (Taylor 1911). Cummings's (1997) objective was to "harness technology for continuous productivity improvements" (p. 64). She explained,

While the term productivity often refers to measures such as output per worker . . ., *gaming productivity* refers to wagering action (play) per patron per interval. *Expediting* refers to advancing and facilitating gaming action so that players can be more productive because their play is faster, extends for a longer interval, and/or involves more dollars placed at risk (wagered) per period than otherwise would be expected. (p. 63)

Technology used well, Cummings (1997, 65) suggested, accelerates "the constant cycling of player action toward large numbers of wagers in order to place the gaming operation at the greatest win advantage relative to players." As in Taylor's writings, *time* is a critical site of technological intervention: "pruning dead time or unproductive motions from various phases of play is a particular focus for getting

more play into each time interval" (ibid., 76). The aim of compressing a greater number of spending gestures into smaller units of time echoes Karl Marx's (1867/1960) insight that "moments are the element of profit," along with Michel Foucault's (1979, 152-54) apt characterization of modern disciplinary logic: "it is a question of extracting, from time, ever more available moments and, from each moment, ever more useful forces." A key instance of "productivity enhancement" by game developers is the switch from pull-handle to push-button machines, allowing for rapid play. "You can rest your hand on the button," said Neil Nicastro, president of Chicago-based gaming company WMS Industries; "You don't ever have to move your hand" (Video Vice 2000). "The effective difference in expediting play," Cummings (1997, 76) noted, "is dramatic. Averaging play at a rate of five games per minute pulling a handle would result in 300 games an hour. If instead the player uses the push-button, the number of games can double this rate of play, from 300 to 600 games each hour." In fact, experienced gamblers play up to 900 hands an hour. The newest of machines feature touch screens that further reduce the time it takes to play.

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but to extend its duration.*

The "cashless machine" with embedded bill acceptor promotes gaming productivity by enabling players to insert large bills into machines and acquire credits rather than feeding coins in one at a time. "Is the coin dead?" wonders a journalist in an industry trade magazine, observing that money is disappearing from the casino environment and being replaced by "virtual cashless play." Not only can the automatic translation of inserted money into credits disguise the true value of cash and increase the likelihood of recycled wins, it can also compensate for the potential errors of the human body: "If you have a machine that takes five or six nickels, that's time a player is spending to put in the coins and make sure they register. Sometimes they put them in too fast or drop them, and that relates to dollars for the casino. Because of that, the credit system or cashless slot makes sense" (*Casino Gaming Magazine* 1985, 14). The digital function of credit-play hooks up to a predigital, Taylorist logic of temporal discipline.

The objective to accelerate gaming productivity moves in tandem with an objective to maximize what gaming industry representatives call "time on device." The aim is not only to speed up play but to extend its duration. One way designers encourage longer play is by ensuring that players—who typically spend hours seated—are physically comfortable. The Gasser design firm boasts "meticulous

attention to the height of seats in relation to gaming tables and slot machine handles," creating special seats to "eliminate hard, sharp edges coming in contact with the main arteries of the legs, which causes circulation to be cut and the legs to fall asleep" (Legato 1987, 15). The flow of gamblers' circulation is linked to the flow of their time and cash into the casino's machines, and a careful ergonomics crystallizes around this linkage. VLC Gaming reduces player fatigue with screens that slant at 38 degrees and game controls positioned within easy reach "because they can't slouch in their seats, they don't get tired as easily," a company representative told me at a trade show.

Wedded to these ergonomic, morphological strategies are a set of digital strategies to increase time on device. The assembly of digitally driven black boxes, pads, and insertion panels that cover the surface of today's gambling device embody the aim to keep players seated for as long as possible: "You want a situation where the customer can get anything they want when they sit down at your machine" (Rutherford 1996, 83). Single machines are programmed with a "*convergence* of gaming opportunities" such that players can "explore, browse, and experiment with selections from a library of game variations in the same box, while never leaving their seats" (Cummings 1997, 71). Some machines incorporate bingo ticket printers so that patrons playing machines in between bingo games do not waste time getting up to buy tickets. Others carry embedded television monitors: "These emerging systems can permit players to view television shows or to enjoy closed circuit special events and personal messaging while they continue their gaming activities on the same machine. Players then do not need to exit the play area" (ibid., 73). The goal is to control channels of incoming information to limit its interruptive potential. To this end, the digital repertoire of contemporary machines goes as far as to include noise cancellation technology to remove "destructive interference" coming from the outside world (Kranes 2000, 33).

Strategies to mute incoming signals and thereby prolong play are coupled with strategies to multiply the channels by which players can output signals of their desires. Computerized menus allow players to key orders into a pad of coded choices, directly transmitting specific wants (for nickels, quarters, dollar chips, a gin and tonic, alka seltzer, a mechanic) to employees in the proximity who wear "vibrating call devices":

> In the past, services for guests on the casino floor became available *ad hoc* as roving attendants circulated around their assigned gaming areas to provide beverages, change, game machine maintenance, and so on. Today, rather than wait for a service person to happen by, increasingly, players can initiate service requests directly by transmitting a signal through the gaming system on which they are playing. (Cummings 1997, 68)

Player desires are communicated and expedited through increasingly selective codes and vibrations, along increasingly refined digital circuits of control and feedback.[1]

Mobile automated teller machines, wireless handheld units, and portable credit card advance systems function to quicken and simplify the transfer of financial

resources. "PersonalBanker," an online account to which customers can make deposits using cash, chips, check, or markers, can be accessed directly by using a pin number on the machine's keypad: "Players can now transfer funds directly from a checking account to credit on a gambling machine. Future gambling machines will allow customers to bypass the $300-a-day limit on an ATM card, while others will allow access to credit cards without a Personal Identification Number (PIN)" (Video Vice 2000). Advanced systems of coding and identification speed up access to credit precisely by circumventing codes and identification numbers.

Perhaps most fundamental to the gaming industry's program of "continuous productivity" are "inducements within game machine hardware and software" (Cummings and Brewer 1994, 66) that exploit the psychological principles of learning outlined by B. F. Skinner in his theory of operant conditioning. Digitized games intensify the highly effective "variable intermittent ratio reinforcement schedule," in which players never know *how much* they are going to get or *when*. Exposure to frequent near misses and small wins sustains betting, as does the option of credit play, whereby winnings can be regambled immediately as opposed to stopping with money in hand. A high event frequency or number of opportunities to gamble in a given time period allows rapid replay, resulting in a "loss period [that] is brief, with little time given over to financial considerations" (Griffiths 1999, 268).

In recent years, game developers have further reinforced the learning schedule of games by adding numerous payout lines, along with options to bet a vast number of coins to take the greatest advantage of winning combinations. Playing one hand on these machines is equivalent to playing multiple machines simultaneously. "Multiline multipliers," as they are called in Australia,[2] distribute play over as many as nine zigzagging lines (see Figures 1 and 2). Although five coins is the maximum bet per play on standard three-reel slots, when distributed over nine lines the maximum bet becomes forty-five coins (on some machines the number reaches ninety). Multicoin machines condense a tremendous amount of hit frequencies into one unit of time, turning a five cent game into a $2.25 game per unit of time, or even $5.00. "A nickel game isn't a nickel game when you're betting 90 nickels at a time," said a representative of the Williams company. These games elevate players' investment without their realizing it. "The perception," Randy Adams of Anchor Gaming told me, "is that you're winning all the time, when you're really not—you're putting 25 in and winning 15 back, 45 in and 30 back, over and over." Nathan Leland of Silicon Gaming put it this way: "Positive reinforcement hides loss."

A score of visual and auditory design elements—crisp, high-resolution graphics and enhanced animation as well as "hi-fi" sound—compose a "second-order conditioning" that adds to the reinforcement of play. Audio engineers work to simulate the sound of cascading coins: "We basically mixed several recordings of quarters falling on a metal tray and then fattened up the sound with the sound of falling dollars" (quoted in Rivlin 2004, 45). International Gaming Technology (IGT) encodes each of its games with an average of four hundred unique "sound events" to accompany different outcomes; these sounds are not meant to be noticed but to serve as

FIGURE 1
ASTRONOMICAL FORTUNE

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an encouraging background accompaniment to play (ibid., 47). Adams: "The idea is to create a sense of winning by pulsing all the human senses with sounds and animated symbols and paylines flashing, nonaversive visual and auditory cues."

As game designers have learned how to "teach" gamblers to stay at machines, they have developed an equally nuanced sense of how to modulate technology to accommodate gamblers' play flow, or "zoning rhythm," as Leland calls it. His company added a dynamic play rate to their video poker machines when they became too slow for experienced players: "The screen shows animated video hands that deal the cards. If you play slow, it deals slow. When you go so fast [imitates rapid pressing on buttons], the game detects it and *adapts*. Even then, some players were annoyed that it was too slow, and we had to speed it up. If a player goes fast enough, the cards pop up without any animation." The dynamic rate feature resets when there is a pause in play, readying itself to conform to the next player's speed. Unlike the factory machines of the mechanical age, with whose uniform rhythms the worker was required to coordinate his own movements, digital machines adapt themselves to the unique speed of each player.

On a broader scale, digitization enables engineers to mathematically adjust games' payout tables or reward schedules to select for specific player profiles within a diverse market. Through the delicate demographic operation of "matching math with markets, player types with schedule types," it becomes possible to

FIGURE 2
LUCKY SEVENS

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solicit "distinct audiences of risk-takers": lower-denomination players seeking frequent small wins respond to certain pay schedules; higher-denomination players seeking big wins respond to others. Marcus Prater at Bally Gaming remarks, "Different types of humans manifest themselves through different machines, different math." Technological procedures of differentiation, he suggests, draw out human differentiation; at the same time, human diversity solicits technological diversity. IGT, for instance, features a staggering number of variations on the theme of video poker, each targeting a different player profile (see Table 1).[3]

Designers' desire to create a "total machine" that could respond to the singular preferences desires of every player comes across in a comment made by an employee of Joe Kaminkow, head of machine design at IGT: "[Joe] wants a machine that pays a ton of small pays, lots of medium-sized pays and a huge jackpot. In other words, he wants us to do the impossible" (quoted in Rivlin 2004, 81). One gaming entrepreneur with whom I spoke had a patent in formulation for what amounts to a personalized reward machinery of the sort Kaminkow imagines. It runs through "progressives"—banks of machines linked to an ever-escalating jackpot (that gamblers augment with their play), displayed on a large digital meter suspended over the machines like a money clock. My informant had found a way to change the payout rate on machines depending on the read of this meter; if it rises

TABLE 1
VERSIONS OF VIDEO POKER MADE BY ONE COMPANY (www.igt.com)

Austin Powers™ Poker	Matrix Poker®
Big Split Poker™	Multi-Hand BlackJack™ Video Poker
Chase the Royal™ Draw Poker	Multi-Strike Poker™
Double Down Stud® Poker	Play It Again Poker™
Double Pay™ Poker	Spin Poker™
Fast Action Draw Poker™	Super Times Pay™ Video Poker
Fifty Play Draw Poker™	Ten Play™ Draw Poker
Five Aces Poker™	Three Card Draw Poker™
Flex Play Poker™	Trade Up Poker™
Game King 4.3 Poker™	Triple Play™ Draw Poker
Game King 5.1 Poker™	Triple Play™ Five Play™ Draw Poker
Hold 'Em Challenge™ Video Poker	Triple Play™ Five Play™ Ten Play™ Poker
Hundred Play Draw Poker™	White Hot Aces™ Poker

to $100,000, he knows he will be able to lower the payout rate and still draw people to play. Although his technology is not yet able to tailor itself to the gaming patterns of particular players by selectively altering payout to retain their play, its innovation is to operationalize the recognition that motivations change in relation to a game's stakes and that more money can be extracted if payout rates are manipulated accordingly. Essentially, this technology will enable games to perform a function that many players already believe they do: alter payouts depending on play.[4] "Technology is catching up to the gambler's paranoia," the patent entrepreneur told me.

For the gaming industry, gambling machines function not only as individual play boxes but as "electronic surveillance devices" (*Casino Gaming Magazine* 1990, 6) whose internal monitors track a player's game preferences, wins and losses, number of coins played per game, number of games played per minute, number of minutes or hours of play, number of visits to the casino, number of drinks consumed, and more.[5] Individual machines perform these recording functions within a larger network of units controlled by a central computer. Originally engineered to track player behavior inside just one casino, digital tracking technologies embedded in games now track behavior across diverse consumer spaces by linking machines in taverns, supermarkets, pharmacies, and convenience stores. Not only the casino but the "local community" (Cummings 1997, 68) is turned into a laboratory for the collection of "live data."[6]

Machines are taking over the gambling scene. In Nevada, 45 percent of gaming property floor space was dedicated to coin-operated gambling in 1980; at present, gambling machines occupy 77 percent (State of Nevada Gaming Control Board 2004). In a dramatic turnaround from 25 years ago, machine revenue today generates more than twice the combined revenue of all other types of games (ibid.).[7] In areas of Las Vegas where local residents tend to play (North Las Vegas and Boulder Strip, for instance), machines garner as high as 89 percent of revenue. The spread of gambling technologies through the physical landscape of Las Vegas (and beyond) is accompanied by less measurable but no less consequential shifts in the internal, subjective landscape of those who play them.

Phenomenology of the Zone

The only thing that exists is the screen in front of you. You go into the screen, it just pulls you in.

—Isabella

Interaction with the digitally enhanced features of new game platforms renders a more continuous playing experience than do "live games" or older-model slot machines, efficiently sustaining a dissociated subjective state that gamblers call the "zone," in which conventional spatial, bodily, monetary, and temporal parameters are suspended. The zone depends on a set of interlinked phenomenal elements, each of which correlates with the digital properties of gambling machines presented above: *being alone, not being interrupted, speed, choice, tempo*.

Machine gamblers typically express their preference for machine play over live games in terms of a desire to be *alone*, to exit social space. Maria told me, "I couldn't stand to have anybody within my . . . zone. I wanted to isolate, just get lost." Rocky said, "I didn't want to have a human interface." Strategizing to prevent human exchange, Isabella would "pick machines with empty spots on either side and play a little on each of the two outer machines to keep them busy." Archie places coin cups upside-down on adjacent machines to give the impression that they are in use.

[Recent gambling machines'] internal monitors track a player's game preferences, wins and losses, number of coins played per game, number of games played per minute, number of minutes or hours of play, number of visits to the casino, number of drinks consumed, and more.

The unequivocal desire to be alone that gamblers express is linked to a demand for *noninterruption*. When someone talks to Diane, she cashes out and moves to another machine: "I resent someone breaking my trance. Don't ask me if I want anything, don't talk to me, don't congratulate me. It's me and my machine. I want to hang a *DO NOT DISTURB* sign on my back." Sharon devised measures to stave off interruptions and thereby guard the continuity of her play: "I'd gravitate toward the corners, where no one could bother me. I'd get all my quarters at once because

I didn't want change girls coming up to me. I'd bring a liter of diet coke because I didn't want cocktail waitresses bugging me. I'd buy a pack of cigarettes before I went in. I'd sometimes put my foot up on one side and that was the final barrier: *LEAVE ME ALONE*."

Newer model gaming platforms accommodate players' demand for isolation by protecting them against the intrusion of incoming signals; they support continuous, uninterrupted play with features such as bill acceptors and credit functions that do not require stopping to insert coins at every hand. Such features ensure the possibility for *speed*—another aspect of play fundamental to the zone. Diane: "In live games, people take too long to decide what they're doing, they interrupt the flow—the *go go go*—and I can't stand it, I have to get up and go to a machine." Maria: "The faster I played, the better. You probably couldn't even see the cards, that's how fast I'd go [her eyes widen and glaze over in front of an imaginary screen, index finger punching rapidly]." A game designer told me, "The really hardcore players analyze the cards so quick I don't have time to even see what's up there, and I designed those games."

Speed, to a greater degree than aloneness and noninterruption, is a condition of the zone over which gamblers feel a sense of control. Digitized features like the dynamic play rate promote a sense of "autonomy" whereby "players can *interact with* and *control* some game aspects" (Cummings 1997, 74). The ability to modulate play—adjust volume, speed of play, choose cards and bet amounts—is understood by game developers to increase psychological and financial investment. Bonus games that pop up when players reach certain credit levels often present themselves as skill based (for example, a bowling ball whose trajectory appears to be controlled by a joystick) when in fact they are entirely programmed, promoting what game developers call an "illusion of control."

New games further cultivate this sense of autonomy through the digitally facilitated *choices* that distinguish them from traditional slots: "Slots are on a whole other pecking order—cherries, bars, etcetera. You don't have to think. With video poker you get to choose the cards, you have *input*," said Patsy. Julie: "I didn't like the old slot machines—there's no challenge, no decisions to make, and you can't pick how many credits to bet." Maria: "With the old machines, you rely on whatever comes up; with games like video poker, you can make *choices*—that may have been the thing that hooked me." At the same time that speed of play suspends gamblers in sort of holding pattern, a constant stream of choice "holds" attention and assists social withdrawal. Shelly: "The machines don't require the kind of attention that live games do, where you have to be sharp, aware, take other people into account. You can play the machines when you're totally numb and exhausted because they require just enough of your attention that you can't really think about anything else." In the zone, attention is thoroughly absorbed by a steady repetition of choosing operations; choice and speed play off one another in the sense that decisions are made to the beat of a *tempo* set between person and machine. Gamblers describe themselves as playing the machine like a musical instrument. When player and instrument are "in sync," they attain a sort of perfection—"hitting the harmonic," as Randall says, or being "in tune": "If the play is not in tune, then I start

to get anxious because it means I will not be able to sit and play for a while, get into the zone, stay there."

Game features that promote continuous productivity collude with the gambler's wish to enter a zone that effectively suspends the social, bodily, temporal, and monetary parameters of existence. Isabella recounts the loss of her body as a point of perspective in mappable space (see Jameson 1991):

> There's a show that comes on after *Star Trek*, it's all in high tech—an illusional bad guy tries to design computer programs to suck people into his web, where they become his drones. That's what gambling on the machines correlates to. On TV they express it by *pulling*—the bodies actually disappear and go into the screen, and then they go through the games of the computer. The computer gambling was like that: I wasn't totally present, I was gone. My body was there, outside the machine, but at the same time I was inside the machine, inside the game, in that king and queen turning over . . .

Marx (1867/1960, 604) wrote that a capitalist mode of production turns the "laborer into a fragment of a man, degrades him to the level of a machine." Digital capabilities take these fragmenting tendencies a step further: the machine player (who is, arguably, a contemporary proxy for the factory laborer) is not merely socially isolated and made into a fragment of a man but is removed from the palpable dimensions of his own body.

Julie describes how machines facilitate exit from the register of *money:* "You have no concept of value anymore. If you put in a twenty dollar bill, it's no longer a twenty dollar bill—it has no value in that sense. It's like a token, it excludes money value completely." In the economy of the zone, money loses its charge as a material means of acquisition and exchange and is converted into the currency of play, a supraeconomic means of suspension from conventional circuits of exchange: "You're not playing for money; you're playing for credit. Credit so you can sit there longer, which is the goal. It's not about *winning*; it's about *continuing to play.* Bill acceptors free players from conscious awareness of money and allow them to enter into a space of credit in which money, as such, disappears.

Winning—too much, too soon, or too often—can itself precipitate stoppage in play flow and disturb the economy of suspension. Sharon would rather "spend two hours losing a jackpot" than cash it out, as this would mean exiting the zone to wait for the machine to drop her winnings, or, in the event that its hopper is low, for attendants to come pay her off. Maria told me, "What I want to do is get into my playing rhythm, stay there longer and just play." Players emphasize the importance of a balance or equilibrium between wins and losses to maintain a plateau of credit and ward off interruption: "If it's a moderate day—*win, lose, win, lose*—you keep the same pace. But if you win big at first, it can prevent you from getting in the zone and staying there." Machines that allow players to calibrate the number of credits they bet offer them some control over the rhythm of loss and gain, as Shelly describes: "If I only had 20 credits left, I'd play one at a time [instead of playing maximum credits, 5 at a time] to stretch it out and keeping playing." Julie's technique is different—instead of slowing her pace and reducing coin input to regain credit, she takes advantage of features that allow her to modulate her speed: "The

pace picks up, you speed up, your fingers move so fast. As you have less and less money, as the credit gets lower and lower, you get faster and faster. You're trying to speed up and get into the zone where you can just play and be away." Interacting with these games, players experience the ebb and flow of money as a function of their own movement.

Gamblers' exits from the constraints of body and money are inextricably linked to an exit from *time*. They often recount their bodily abandonment in hours—"for 15, 16, 17 hours I sat there." "Clock time," as Archie calls it, "disappears." Shelly told me, "One night I went in around eight o'clock and figured I'd play until maybe midnight or so because I had to go to work the next day; the next thing I knew the sun was coming up." Gamblers' experience of duration—the subjective sense of temporal flow—is not so much eliminated as it is altered in the zone, where it condenses, expands, and stretches according to an idiosyncratic course of play. Digital game features like the "dynamic play rate" promote a sense of release from the measured pace of chronometric time. Randall comments that speed makes him feel he is "bending time." Racing in his dragster (in which he achieved speeds of up to two hundred miles per hour), on his motorcycle, and on the video poker machine, he goes "into a different time frame, like in slow motion. It's a whole other time zone." Time, like money, becomes a manipulable playing currency rather than a determinative order.

The relationship between game features and the flow of player experience is characterized by an increasing *fittedness*. Design strategies for rendering "continuous productivity" match gamblers' desire for the insulating continuity of the zone and vice versa. In the game-fitted phenomenal world of the zone, human and machine seem to *merge*, as Randall describes: "I get to the point where I no longer realize that my hand is touching the machine, I don't feel it there. I feel connected to the machine when I play, like it's an extension of me, as if physically you couldn't separate me from the machine." Beyond the physical merging of human and machine is a more abstract merging of intention and response, desire and game, as Patsy narrates: "My eyes feel like they're lining up the bars on the screen, I see them turning, and then *stop*, like it's under my influence." Josie: "It's like you go around in the numbers, and *you* decide where to stop." Lola speaks in terms of a communicative vibration: "There's times I feel this vibration between what I *want* and what *happens*."

The digitally facilitated immediacy of machine response to player desire absorbs and neutralizes that desire and, in so doing, solicits further desire.[8] As I elaborate below, player desire likewise absorbs the very technology whose response it anticipates and, in so doing, solicits further technological intervention. As the gap between desire and design grows smaller, the two appear to coincide.

Endgame: AutoPlay

Fun is the common denominator—people want entertainment.
                              —Randy Adams, director of machine design at Anchor Gaming

At the start of his interview with me, Gardner Grout of Silicon Gaming stated that the goal of his company was "to make the most entertaining slot machines." Toward the end of the interview, he contradicted himself: "One thing that we didn't get at the beginning is that people don't really want to be entertained. That's the big problem. Hardcore players are not interested in entertainment, or bonuses. In fact, bonuses interrupt them. They want to be totally absorbed." Players who find innovative digital contrivances bothersome or interruptive challenge engineers and their philosophies of entertainment. Game developers respond, somewhat disappointedly, by muting the very features that define the cutting edge of digital game design, as Gardner describes: "We spent a lot of time designing bonus features with animations that came up when you won a prize, but some people just want to keep *playing*. So, we put shorter animations, and added more sound and music as a sort of background reward that you could continue to play over if you wanted to just keep going." As it turns out, at a certain point in the career of the digital game it became necessary to background the digital itself. The intensification of digital capabilities leads not only to an exit from embodied space and chronometric time, the dematerialization of money, and the cancellation of desire by way of its immediate fulfillment, but to the falling away of the material technology itself.

Gamblers' exits from the constraints of body and money are inextricably linked to an exit from time.

Julie explains, "With old slot machines I'm not a part of the game, I'm just a part of the machine." I ask her, "And you're not part of the machine when you play new games?" She responds, "The machine isn't even really there. . . . It's important in the beginning because you *see* it—I only play the ones with the blue screen. But as you play the machine becomes less and less important; it starts out the machine and then it's the *game*." Once players are absorbed in the game, the technological, aesthetic features that draw them in stop mattering. Sharon describes playing video poker:

> In the end, I wouldn't even look at the cards. I'd just put bills in, get a bunch of credits, and press the buttons in rapid succession. *Deal—Draw—Play Max*; *Deal—Draw—Play Max*. I'd just watch the credit meter go up and down. You reach an extreme point where you don't even delude yourself that you're in control of anything but strapping yourself into a machine and staying there until you lose. All that stuff that may attract you in the beginning—the choice, the decisions, the skill—is stripped away.

Certain poker machines in Australia feature an AutoPlay option that formalizes the method of play Sharon describes above. Players insert money, wait for credits to register, then simply press the AutoPlay button and let the game play itself (see Figure 2). The elements of skill and choice, said by game developers to distinguish new from old games, slip back into the raw chance of the traditional or "predigital" slot machine—except that now players do not even pull the handle themselves; instead they merely watch as the credit meter goes up and down. Although the AutoPlay feature does not formally exist in North American–licensed machines, some players manage to reproduce it. As Stacey Friedman of Silicon Gaming observed, "In South Carolina, they would load up credits on poker machines, push the play button down and jam a toothpick in there."

One designer had this to say about AutoPlay: "It's just *pure gambling*—all chance, no skill. Basically that's what all gambling comes down to: putting things in a box that says *yes* or *no*." His description of the "pure" gambling operation likens it to the operation of the binary digital computer itself, in which all events are represented as two possible outcomes—zero or one, yes or no. After the body folds into the machine and the machine folds into the game, what is left is the abstract, digital procedure of the game itself. In AutoPlay there is no feedback, no vision of the game's output, no perception; AutoPlay marks the point at which the varied, complex forms of interactivity and productivity that have become the trademark of the "digital age" loop into recursive forms of disengagement. Players cease to be desiring subjects betting against the RNG to win; instead, they coincide with the digital procedure of the RNG and the statistical program it implements, such that they themselves come to occupy the position of the "really new god."

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Walter Benjamin (1968) has argued that "the countless movements of switching, inserting, pressing" that punctuate modern life and its technologies (intimately connected as they are with the autonomization and standard timing of industrial labor) alter the structure of human experience. "Thus technology has subjected the human sensorium to a complex kind of training," he wrote of traffic signals. In modernity, "the shock experience has become the norm" (p. 162). Perhaps today we have moved from shock to the zone, a state of absorption characterized by flow and continuity. The zone exemplifies traits of "postmodernity" as a number of cultural critics have outlined them: The zone is characterized by play rather than pur-

pose, chance rather than design, absence and immersion rather than presence and perspective, the collapse of time and space (or "time-space compression"), the "waning of affect," the free-floating circulation of credit in market exchange (Jameson 1991; Harvey 1989a, 1989b).

Yet the design tactics of game developers suggest that digital gambling technologies continue to exemplify the aims of modern discipline; the zone, no matter how "free-floating," remains in continuous relation with the material artifact of the gambling machine and its instrumental program of value extraction. Digital gambling machines, like their predecessors (and, indeed, like much of the technology at work in capitalist economies), aim to harness space and time to financially generative ends (Jameson 1991; Harvey 1989a, 1989b; Bell 1973). In this sense, they are contemporary vehicles for the principle of general equivalence—the exchangeability or convertibility across time, body, labor, money, and commodities (Marx 1867/1960). The material I have presented suggests that technologies of the "digital age" are distinct not because they depart from this principle but because they radicalize it, accelerating the convertibility of time, body, labor, and money in the interest of profit, until all those categories vanish, as in AutoPlay.

Digital games' acceleration or intensification of equivalence across bodily, temporal, and monetary registers may be the logical extension of a modern technological ethos but at the same time marks a qualitative shift in social and existential experience. Strategies of modern discipline such as fragmentation, regimentation, and discontinuity are not abandoned; instead they are sped up to a point where they function on a register of interactivity, adaptability, choice, modulation, flow, and continuity (Deleuze 1992); shock is absorbed. Levers, pulleys, clocks, and cameras are integrated with a computerized substrate of ever more complex configuration, promising players the *perpetuum mobile* of the zone and ensuring "continuous productivity."

Notes

1. Exemplifying the automatic self-regulation built into the control apparatus of cybernetic systems, gambling machines signal technicians without human prompting, programmed as they are with "maintenance tickler schedules for routine tune-ups and self diagnostics" (Cummings 1997, 76).

2. Australia, which has the highest gambling machine per capita ratio of any nation, is consistently cited by game developers for the combinatory complexity of its gambling technologies and for its residents' fluency with this complexity. Marcus Prater of Bally Gaming: "The Australian market is more evolved than ours. The mechanical reel spinner disappeared from the gaming landscape and they were left with video, pinball, and other arcade games with bonuses and diversity—they grew up with it and seem to understand all of the unbelievably complicated winning combinations. When there are nine lines zigzagging everywhere it's hard to know why you're winning—I'm in the business and I don't even know. It's a more mature market, kind of like the locals market here in Vegas where players go to casinos three times a week and understand the pay schedules. Maybe that's where the States are headed."

3. For all the talk of shifts to multiline reel games with themed bonus features, in fact video poker remains the staple game of the gaming industry. It is likely that the lack of industry buzz around video poker is linked to the game's relative closure to technological innovation. At one time, as a developer at International Gaming Technology (IGT) put it, "Video poker and its illusion of control inverted the whole equation of gambling machines." Since then, however, there has been virtually no change in the basic structure of the game. Vallejo

explains, "With a game like video poker, there's a finite mathematical universe, and only so many elaborations you can squeeze out of it—it's not so flexible statistically." Prater: "You can redistribute pay in all the pay tables, but by now every formula possible of video poker pay distribution has been done. You don't have many options left except to add more levels of play, multideck machines like double and triple play." Video poker's restricted potential for evolution notwithstanding, the game is a continuing success. "*It's a perfect game*," says Grout. "You can't really improve on it; all the elements are there." Its configuration of elements solicits a broad spectrum of hit-frequency inclinations—it can be played on a low hit frequency (where the aim is jackpot) and on a high hit frequency (where the aim is on the "lower end" of the pay scale).

4. Technology companies usually offer Nevada casinos the choice of five different payback percentages on video slot machines, ranging from 88 to 97 percent, corresponding to state regulations. If a casino requests a 94 percentage payback rate on a game, the game's chip will be set accordingly. If a casino wishes to change that percentage, it will have to buy and insert a new chip. "From a labor standpoint," Prater points out, "the idea that casinos are always changing their chips is ludicrous—it's expensive and impractical." On video poker, payback percentage depends on the choices one makes; at optimal play strategy, it is possible to win a 96 percent or higher payback (which falls to 34 percent if one does not know the rules of the game).

5. Norman Klein (2002, 24) wrote, "The slot machine is a symbol of the globalized electronic economy. It stands for cybernetic controls across many markets at once. New computerized digital tracking services perform like a cyborg for the house: tracking players, slots, tables, revenue sources, demographics, doing the taxes, providing up to the minute WIN reporting, player photos, electronic signature identification, messages for players on screens . . . . For the trackers on the casino floor, there are portable hand-held tracking devices; for their bosses, multiple casino access. This is indeed a software chimera, the tail of a serpent attached to the head of a lion."

6. Dr. Craig Fields, vice chairman and technological savant of Alliance Gaming Corporation where he is in charge of refining linkages between games, across casinos, is former director of the Pentagon Defense Advanced Research Projects Agency (DARPA), which funded the research that resulted in the creation of the Internet. "Fields quit DARPA when he concluded that the greatest users of high technology were not to be found in the military but in the entertainment industry" (Rutherford 1996, 81).

7. Nevada's annual gaming revenue was $9.4 billion in 2002 (American Gaming Association 2004; see www.americangaming.org), with slot win accounting for approximately $6.3 billion of that amount (State of Nevada Gaming Control Board 2004). Nationally, the gross annual revenue for all forms of gaming that year was $68.7 billion—more than consumers spent on movies, recorded music, theme parks, spectator sports, cruise ships, and video games combined. This figure is a striking jump from 1990 when the total was $26.6 billion (American Gaming Organization 2004; see www.americangaming.org).

8. This tightened loop of desire and response accounts for the addictiveness of gambling machines. As one researcher of gambling addiction noted, "The hard writing that nature gave us didn't anticipate electronic gaming devices . . . because the video form is faster than the mechanical form, they hold the potential to behave in the fashion of psychostimulants like cocaine or amphetamines" (Howard Shaffer, quoted in Rivlin 2004, 74).

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