

# COMMENTS ON NEAR-MISS SLOT MACHINE DESIGN

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## INTRODUCTION

The purpose of this paper is to summarize and comment upon the statements which have been made concerning the deceptive design of gaming machines and the effect of deceptive design on the player. Materials are assembled in chronological order.

Before proceeding it should be noted that there are a number of ways of gaffing (rigging) machines to make them deceptive. Whilst in Australia we only use one method, all methods have the same effect, the generation of near misses, and only one method needs to be used.

## MATERIALS AND COMMENTS

***Machines that Pick Your Pocket - AND MAKE YOU LIKE IT! —Inside Story of the Slot Machine Racket – by Walter A. Raschick - From Modern Mechanix and Inventions Magazine 1932 1***

***“GOSH!” you’ve probably said more than once, as the symbols halted, hesitated, and then swung tantalizingly away from the center row, “I almost got the bells that time. Watch this one” —and out of your pocket and into the slot machine goes another hard-earned nickel.***

***Again the wheels whirr, and as their spinning dies into a metallic clack-clack-clack, the player stands pop-eyed before the entrancing mechanism: the plums align themselves in a row, but the middle one falls back out of line, and again there is no payoff. Another nickel is played—and this time two cherries and a lemon click into***

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<sup>1</sup> <http://blog.modernmechanix.com/2006/07/20/machines-that-pick-your-pocket-and-make-you-like-it/>

*place, and four five-cent coins of Uncle Sam's vast realm trickle down the pay-out slide and fall into the money cup at the front of the machine.*

***"Gosh!" you chortle, with a grin as big as all outdoors, "this is more fun than I've had in a blue moon"—and go right on throwing good money after bad." [page 35]***

[In the case of the machine described, the near misses are effected using a "stop star" which ensures the reel will only stop on every second stop. This enables high scoring symbols to be inserted on the skipped locations.]

***"This front view of machine shows two gum symbols and a lemon lined up for a two-nickel payout. The third gum symbol is one row below-it can never line up with the other two for a sixteen-nickel payout." [caption to diagram on page 38]***

[The stop star would also enable the systematic starving of particular symbols on each reel. Raschick appears to understand this with his example showing two paying symbols on the payline but with the third placed just off the payline by the operation of the stop-star.<sup>2</sup>]

***"So cleverly has this system been figured out that the extraction of money from the player is almost a painless operation. Slot machine playing is perhaps the best (from the racketeer's standpoint) come-on game extant. A player contributes three or four nickels without results, then out pop two nickels; in go six more, and out pop four, etc., etc. Like the mills of the gods, slot machines grind out your money slowly, but inexorably. In fact, so gradually does the player lose his money that he actually enjoys the process.***

***Most machines are set on the 75-25 basis, but in outlying communities, where transients and tourists comprise the bulk of the trade, operators have machines which take as much as seventy cents out of every dollar played. Recently, when "times got tougher" — or should we suppose the sucker public is getting wiser, and fewer are playing? — operators in the Northwest changed the ratio to as high as 10-90. Such an exorbitant ratio in favor of the operator (10c is paid, out of every dollar played; 90c remains in the machine) is used only to bilk transient trade." [pages 35 and 36]***

[It is worth noting here that Raschick considers the player is being cheated whether the machine is paying a 75% payout or a 10% payout. (Though of course he considers the player playing the 10% machine is being cheated more.) He uses the expression a "come-on game"<sup>3</sup>, refers to the machines as "mechanical pickpockets"<sup>4</sup> and refers to the operators as "racketeers"<sup>5</sup>, "human jackals"<sup>6</sup>, and an "oily band of scum whose depredations are designed to make bums out of upright American citizens"<sup>7</sup>.

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<sup>2</sup> The technique of starving symbols is described in "Unbalanced Reel Gaming Machines" a paper written by Roger Horbay (President of Game Planit Interactive Corporation, Canadian electronic gaming machine expert and problem gambling specialist, trainer and researcher) and the author. The paper was delivered at the IPIC Conference in Melbourne 2006. It is published in a number of places on the web including [http://www.casinoofrepa.org/images/documents/falkiner\\_horbay\\_09\\_09\\_06.pdf](http://www.casinoofrepa.org/images/documents/falkiner_horbay_09_09_06.pdf).

<sup>3</sup> A "come-on" is defined in The Free Dictionary by Farley (<http://www.thefreedictionary.com/come-ons>) as "anything that serves as an enticement" and "qualities that attract by seeming to offer some kind of reward".

<sup>4</sup> At page 34

<sup>5</sup> At page 35

Essentially there are two ways of cheating. One way is to bust the transient player as was done in steer joints (crooked casinos) using busters (misspotted dice) in craps games – strip the money off the player very quickly. According to Raschick this was done in the case of gaming machines with very low-payout machines located in “*chicken shacks, wayside beer ‘joints,’ and off-the-beaten-track gasoline service stations*”. The other way of cheating is to misrepresent the odds and grind the player as is done with weakly loaded dice – and higher-payout gaming machines whether by the use of bugs, stop stars, asymmetric virtual reel mapping or unbalanced reels. And you only need one gaffing method to make a machine which is devastating to the player.

Thus, if you are using a deceptive machine, you are cheating the player whether you are busting him or grinding him. For the player, grinding is worse than busting. A sailor who is steered to a steer joint and busted of his shore-leave money simply slumps off back to his ship less the money that was in his pocket. The gaming machine player who is ground over a period of years can lose everything: family, friends, house, savings and end up in the gutter both emotionally and financially.]

**Primer for Chumps by Professor Philip G. Fox – from Saturday Evening Post 21 November 1959**

***“I’m told the three dials clicking to a series of stops build up suspense far more effectively than the simultaneous halting of all dials. A glance at the arrangement of the symbols, given above, reveals the devilish cleverness of the setup. There are three bars on the second dial to raise hopes of a jack pot, but only one bar on the last dial. On the second dial there are no lemons which ruin a player; but four lemons on the third dial lower the boom on him.” [page 142]***

[The machine described by Fox, a teacher of statistics at Wisconsin University, did not appear to use stop stars but generated near misses by simply starving reels of particular symbols as described in the example Fox gives above. Fox describes this as “*devilish cleverness*”.]

**“Lady Luck – The Theory of Probability” by Dr. Warren Weaver, Heinemann, London, 1964.**

***“You can see what a clever arrangement this is, dial 1 comes to rest first and there are only three chances out of twenty that it shows a lemon so that your hopes immediately vanish. There are five chances out of twenty that dial 1 will show a plum [a high scoring character] but with a plum on dial 1 you have to get a plum on dial 2 to stay in business and the chances of getting that is only one in twenty ...” [page 158]***

[Weaver based his account of gaming machines on the work of Fox. Weaver refers to the reels as dials.]

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<sup>6</sup> At page 38

<sup>7</sup> At page 39

**House of Cards – the Legalisation and Control of Casino Gambling by Jerome K. Skolnick, Little Brown & Company, Boston, Toronto 1978**

***“Generations of players have pulled slot machine handles and produced jackpot symbols on the first and second reels, seemingly just missing out on the jackpot. What happens is this: because of the differential placement of jackpot symbols players wrongly - though not necessarily consciously – believe that jackpot odds are something like 4 x 5 x 5 (100 out of 8000), while, in fact, the odds are 4 x 5 x 1 (20 out of 8000.) ...” [page 64]***

[Professor Skolnick had, for three years, a high level of access to the Nevada gaming industry receiving the cooperation of the Las Vegas police, gaming control authorities, casino operators and management. He makes the important observation that the player’s expectation that the reels are balanced may be either conscious or unconscious.]

**License to Steal – Nevada’s Gaming Control System in the Megaresort Age Jeff Burbank University of Nevada Press 2005 - Chapter 4 titled "Near Miss"**

***Schreck, lawyer for Universal:***

***”[T]here is not a single gaming device slot machine that I am aware of that doesn't have some sort of near miss feature. We are not dealing with anything novel, ... [Universal's near miss feature] is a new technology and a newer way of doing what has been done from the day slot machines first entered the industry in the State of Nevada.’***

***Schreck, maintained that the old mechanical three-reel slots had always produced near-miss results by loading more winning symbols onto the first and second reels. Players would see the symbols on the first two reels more often than they would normally expect since many players believed that all three reels had the same number of symbols.” [page 113]***

[These passages confirm that near-miss based on the uneven allocation of symbols between reels had been used from the time slots were introduced into Nevada and Schreck clearly implies the practice misled players and was intended to do so. There is nothing in Burbank’s account of the proceedings to indicate that Schreck’s statements above were challenged by the Commissioners, on the contrary, they were corroborated.]

***Robert Peccole, Nevada Gaming Commissioner:***

***“I can remember the old mechanical machines when you'd load up the first reel and the second reel and have one bar on the end, and if that isn't messing around with the pay line, I don't know what is. I mean you are just as deceptive in that instance as you are with any concept of deception. It will bring those bars up on the first two reels, but nothing shows up on the third reel. And people keep coming back because they think they are going to win.” [page 123]***

[The Nevada Gaming Commission is the world’s leading authority on gaming machine regulation. If Burbank’s account is accurate, what we have here is a Nevada gaming commissioner, a cardinal in the gaming regulation hierarchy, pointing out that the unbalanced reel mechanism (the same mechanism used in Australian machines) is deceptive, as deceptive as any concept of deception, and that the deception is done to make people think they are going to win and to keep them coming back to play the machines.

Further, there is nothing in Burbank's account to suggest that any of the commissioners or the chairman objected to Peccole's description of the machines. Peccole was a Las Vegas lawyer whose father was a long-time worker and owner in Las Vegas. Peccole had considerable experience in gaming law. [pages 210 – 212]]

**Magic Makers Vol 57-04 page 9 – May 2007 newsletter of the Australian Society of Magicians- Victorian Chapter**

***“As his [Tim Falkiner’s] explanations of the methods used by pokie manufacturers to outwit the hapless gambler came forth there were exclamations of disbelief from members and a general bewilderment as to why generally poor people continue to pour their hard earned money into the pockets of operators.***

...

***... The most startling example was the fact that the symbols on the reels are not evenly distributed: six kings on reel 1, six kings on reel 3 but only two kings on reel 2. As only three symbols can be seen on each reel the unfortunate mug keeps believing he’s only missed a win by a couple of inches.***

***If nothing else, the three dozen or so members and visitors in attendance all returned home vowing never to be tempted to add to the profits of big time operators ... You just cannot beat a cheating system folks.”***

[This extract from the newsletter of Victoria's magicians makes it clear what the magicians felt about the internal design of the machines. My presentation was based on the “Unbalanced Reels Gaming Machine” paper by Roger Horbay and me and the magician's comments may be read in the light of this. However, let me say two things. First, the magicians, whose trade is the harmless use of deception, are amongst the best people to judge whether something is deceptive. Secondly, these honest magicians were quite frankly appalled at the techniques used in the machines.]

## CONCLUSION

It will only be a matter of time before the internal design of gaming machines and the near-miss techniques come to the public's attention.

When that happens, the gambling industry will recruit a formidable army of psychologists and other professionals who will all give expert evidence substantiated by all sorts of tests and surveys that near-miss has no effect on the player.

These extracts make it clear that a number of experts over a span of more than seventy years, who have become aware of the near-miss techniques, have all regarded them as deceptive and as having the effect of increasing play by deceiving the player.

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