

editorial/editorial

A report from the Global Gaming Expo in Las Vegas, Oct. 15, 2019: Updates on Innovations and Gambling Technology

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This paper is a review of the Global Gaming Expo, held October 15 to 17, 2019. Many innovations in gambling games are here described, including (a) the continued growth of electronic table games, (b) sports betting, (c) multi-card electronic bingo, (d) skill elements in bonus games, (e) gambling games that incorporate video game elements into either bonus rounds on slot machines, (f) and game that are entirely like video game. Video game elements that have been incorporated into gambling games include matching symbols, combat with monsters, flying, hunting fish, the striking of a punching bag, and the collecting of coins while racing around a track.

In 2009, I attended the Global Gaming Expo (G2E) in Las Vegas. I later reported in this serial on my observations of the conference in a short paper, “Report from the Global Gaming Expo, Las Vegas, November 17 to 19, 2009” (Turner, 2011). G2E is the conference where the gambling industry presents in its entirety its new gambling games and technology to such venders as casino operators, who may, for business reasons, be hold a solid interest in these new games. At that time, the gambling industry—or *gaming industry*, as it prefers to call itself—was in the throes of a revolution in gambling technology, one that was realizing the development of numerous innovations in both table game design and, in particular, the conversion table games into electronic counterparts. The motivation for this trend was fairly simple: table games were expensive to run because of the staff accordingly needed. In addition, the gaming companies were likely also motivated by a declining interest in slot machine games, a shift particular among younger adults (Ontario Lottery and Gaming, 2012). What electronic table games now offered included a roulette wheel with an actual croupier, surrounded by a large number of electronic betting consoles, ones that would greatly increase the number of players that could bet on the same wheel at the same time. Other games were being completely converted into electronic counterparts. Certain developments also took place concerning slot machine design, including the introduction of games with a “social” component—a bonus round that involved playing against other players on that bank of slots. However, the big innovations in 2009 were in table games.

It had been 10 years since I published that paper, and I since grew to believe, given the amount of time since passed, that I now needed to update myself on the latest

trends in gambling games. In October 2019, I attended the National Centre for Responsible Gaming (NCRG) conference in Las Vegas, then subsequently I was a participant in the 2019 G2E, where I presented a poster dealing with my research. As in 2009, part of my reason for attending NCRG was that persons who attended the conference were permitted a free one-day access pass to the Global Gaming Expo (G2E), which was also at the Sands Expo and Convention Center in Las Vegas, one day after the NCRG conference. This one-day pass provided a meaningful opportunity for the researcher because, in most circumstances, to attend G2E, the participant needed instead to be a buyer or seller of gaming technology, or be linked to the industry by some other means. I believed myself to be somewhat of an intrepid explorer of an earlier time, venturing into the deepest and darkest jungle of the gaming culture. I was open in explaining my motives for being at the conference: to keep up-to-date on the gambling technology. The vendors I spoke with were exceptionally friendly, and pleased to discuss their respective games with me. Nonetheless, I did feel somewhat as if I were an ultimately unwelcome outsider, spying on this strange aspect of gambling business culture.

I have summarized here what I believe to be some of the most significant trends in the gambling industry today, based on my observations at G2E. Some of the text below is speculation because I was not able to obtain details concerning all of the games in question. However, I did cross reference the information with other sources from the Internet where possible. In addition, these games were in “demo” (demonstration) mode, a game version which operated in a manner illustrating the various mode of the game, but which did not provide the player with a realistic appreciation of the odds of the game or of its likely outcomes. As such, the information provided should accordingly be treated with appropriate skepticism.

Advances in Random Chance

One of the first booths I visited illustrated certain advances in random chance. Currently, most gaming makes approximate random change through a mathematical algorithm that is run continuously (Turner & Horbay, 2004). This algorithm has vulnerabilities and the resulting sequence of outcomes is not truly random. One of the first manifestation of the algorithm to attract my attention was a new technology in computer chips—one that might in fact greatly improve the randomness of games of chance. These new chips used quantum variation as a source of random chance. The chips could avoid certain of the flaws of current random number generators, namely the possibility that the RNG chips could be reset and always proceed in same sequence (Turner & Horbay, 2004). In talking to the representatives at the booth, it was apparent that the chips had not yet been deployed in gambling machines because, currently, they ran too slowly for slots. The chips were, however, used in encryption, greatly increasing the security of encryption because they could not be reset to a starting point and the sequence was always different and random.

Explosion in sports and fantasy sports

The second discovery I made while perusing the various booths was that we, as a society, are witnessing an explosion in sports and fantasy sports gambling opportunities. This change is taking place because of the recent overturning of the law in the United States that banned sport betting, specifically the Professional and Amateur Sports Protection Act (Associated Press in Washington, 2018; Holden, 2018). Many U.S. states are eagerly passing laws to permit sports and fantasy sports gambling. This change is a substantial one in U.S. policy from 2006 where many U.S. senators were trying to ban Internet gambling altogether through the Unlawful Internet Gambling Enforcement Act of 2006 (UIGEA) (Rose, 2006).

Fantasy sports, however, were in any case exempt from these rules (Holden, 2018). This exception is present because such sports are viewed as a game of skill that certain state legislatures appear to think, mistakenly, that fantasy sports do not in fact qualify as gambling. In addition, in fantasy sports the player only picks players rather than teams, a feature which greatly reduces the chances of corruption of a game. That is, if the game is based on a collection of individual players, no value can be found in point shaving. Fantasy sports represent the commercialization of sports pools. In fantasy sports, the gambler select players to make up a team and then compare the performance of that player's assembled team to that of other gamblers with their own assembled fantasy teams. The player wins based on the aggregate of each specific player's individual statistics. A principal difference relative to sports pools is that the gamble can be resolved in one day only, rather than in months. Another curious feature is that a player can ask the fantasy sports web site to assemble a team for the player at once automatically and randomly. These features greatly diminish the so-called "skill" element of the game.

Now that the Professional and Amateur Sports Protection Act has been overturned, a strong drive has emerged in the U.S. to pass sports gambling laws, an impulse that is matched in other countries. Currently, 42 states have legalized sports betting, or are considering legalizing it. Sports betting does indeed enjoy a greater chance of illegality, such as points shaving, than does fantasy sports. It is not clear how these states will protect the integrity of the game from such concerns as point shaving, with the legalization of sports betting. Point shaving occurs when a team or individual players purposely underperforms to reduce their score (Turner, 2015). In the movie, the gambler and star basketball player, at the request of gamblers, made a series of deliberate errors to change the game outcome in favour of the gamblers. His team still won, but did so by less than the point spread (Turner, 2015).

Mobile gaming, Bingo, and comfortable chairs

The rest of the exposition area at G2E was stocked full largely with electronic gambling technology. This dominance included the continuation of the trend I reported in my 2011 report (Turner, 2011) concerning electronic versions of table games, as well as actual table games with electronic adjuncts (e.g., chip readers).

The electronic versions were, however, the more predominant in both 2009 (Turner, 2011) and 2019. A couple of vendors were selling comfortable reclining chairs with cup holders, chairs that included an attached video screen on a swivel arm, on which the player could play, among other games, roulette. So now, quoting from the musical *Guys and Dolls*, a player could really “Go broke in quiet and peace.” Another conspicuous aspect of this year’s G2E was the considerable number of vendors selling gaming for mobile devices, such as tablets and phones. Electronic gambling machines were branching out to include more lines. One game included seven lines in the middle of six on both ends, thus producing a substantial number of possible betting options. Levers appear to have made a comeback. Two displays had been mounted of large spinning reel games, games that included updated graphics and lights, and also enjoyed levers with colourful knobs at the end (one pink, one blue), instead of the traditional black knob. Video slot machine games had become exceptionally colourful, and certain machines enjoyed particularly effective graphics, including highly detailed pictures of dogs and enduring housecats. The Big Wheel also made an appearance at G2E, in this case with multiple coloured lights and sounds as the Wheel was spun. Finally, bingo was prominently represented too, with numerous vendors hawking various multi-card versions of bingo, including versions including colour screens that were extraordinarily large.

Electronic Gambling: games of skill or the illusion of skill?

However, the principal revelation of G2E this year concerned the *quantity* of games that incorporate skill game elements as bonus features on traditional spinning real slots. With certain games, the skill element appeared only after the player had obtained some outcome on traditional slot games and therefore played the skill game only as a bonus round. The bonus rounds might have included elements of skill, or perhaps only a strong illusion of it. Bonus rounds that appeared to involve real skill included a game of combat in which the gambler battled a monster during the bonus round, matching objects to win a treasure, race a car, shoot fish, or fly a plane. One game combined sports and cards: the flop would be determined by a simulated horse race.

Specific games of note included one using the theme and tone of the *Rocky* movies. The multiple line slot machine type game had several boxing-related symbols and pictures from the film series. Minor bonuses included video clips from the first movie, but the real feature of interest was a punching bag. The gambler won points by tapping on the screen at the bunch bag. This game was already mounted casinos in Las Vegas, including the city airport, where I was amused to see a man tapping on the screen. I wondered how hard one can hit the screen before security could intervene.

Two games used player controllers for video games instead of the common slot game set up. The game *itself* was a traditional slot game, with no skill, but, in contrast, the bonus round *was* a game of skill. It involved the player mock-driving a car around a race track while, for a payoff, bumping into coins. Three levels were available.

With level one the track was simple and more like a traditional racing oval. With level two, the track had loop-de-loops. With level three, the race provided no bumpers on the sides, with the intent that the player could easily fall off. If the player *did* in fact fall, he or she was immediately restored to the track, but that player would also lose time, thereby compromising the number of collected coins. The game with the combat bonus round was similar until the bonus round, at which point the player needed to fight a designated enemy. It was not clear from where the wins in the combat version derived.

Many games had elements pertaining to player skills, but it was not clear if it was the specific skill as indeed such, or instead an *illusion* of skill. One game involved matching rice bowls looking for bronze, silver and gold coins. If the player won three gold coins the screen was showered with coins. However, as with most of the games I saw, it was not clear how this game would function outside of the demonstration mode.

Another game, called Hunting Fish, involved the gambler clicking on a fish image, with a weapon then fired at a fish. According to Admin (2018), this game—specifically, its premise— was exceptionally popular in Asia. Again as the game was in demo mode, it was not clear how it was played, and if there was any degree of skill involved. Admin (2018) notes that the money the player puts into the game buys him or her ammunition credits, and each shot costs the gambler some ammunition: for \$1 the player might buy 10 shots. That player could also upgrade to larger guns that cost more per shot. The gambler earned points for hitting the fish, and larger prizes for hitting larger Ocean creatures, such as the Orca (Admin, 2018).

The final series of games I examined were being marketed by a company called Gamblit. Gamblit offers several games that have game characteristics. Their product line includes a gambling version of Pack-man (see Gamblit, 2019). Another game they offer involved battling monsters (see Toth, 2019a). The player rolled (that is, clicked on) a dice that gives him (or her) attack points. When the gambler judged himself to have accumulated enough points to play successfully, he attacked. If he rolled a “1,” he lost. If he waited too long before attacking, the monster might attack first. Not clear was whether any skill was involved in this game; more likely, the game provided instead an *illusion* of skill. Gemflux is appearance and style to the popular free game Candy Crush, but in this case, the game is for money. As it was in demo mode, I had no idea how the betting works, or the chances of one winning or losing, but assume each click on the touch screen costs money. There is a video of the gameplay available at Toth (2019b). There was also an Indiana Jones inspired game involves having the player move a person over a series of tiles. Based on the beginning of *Raiders of the Lost Ark*, the gambler was trying to reach to an Aztec treasure across a floor with traps. If that player picked the right tile he or she would win money. What was set to happen if one struck with the wrong tile was impossible to determine because the game was in demo mode. But I suspected the player won or lost based on the tile jumped on. At the far end was a tomb room containing treasure. The player needed to solve a puzzle to win the treasure. I was hoping as well for a giant rolling ball, spiders, or darts.

Some of these games can be viewed on the Gamblit (2018, 2019) website, where the company advertises for games that include fighting zombies, riding a jetpack, solving puzzles, firing a catapult, blowing up aliens and asteroids, all to win cash, as well as for a navy combat game and one for land-based combat. Another developer specializing in making arcade style gambling games is Synergy Blue (Business Wire, 2019). According to their web site (Synergy Blue, 2019), their skill-based offers include a speedway race through a beach boulevard or even an out of the world space track. The company also sells a game where the player protects lollipops from monsters, another with the gambler battling zombie infestation, another still with making cocktails, yet another involving juggling footballs, and one that involves an epic battle through space.

Summary of Games

In recent years academics have shown an interest in the convergence of gaming and gambling, with most of the focus being on the monetization of gaming, rather than the incorporation of game elements into gambling. For example in the *Conceptual Framework of Harmful Gambling* (Abbott, et al., 2018), produced by Gambling Research Exchange Ontario (GREO), the authors devoted only a single short paragraph to gaming elements being incorporated into gambling games, and a page and a half to gambling elements being worked into gaming. As shown in this brief observational report, the gambling industry is in fact doing more than just incorporating a few new skills into gambling. According to Booker (2019), casinos are not willingly replacing their old-fashioned spinning reel slot games with these new skill-based games, but instead are being forced by changes in the gambling market. Younger adults are not interested in playing non-skilled slots games. This transformation of gambling into an activity closer to like video games is progressing rapidly. Candy crush appears to be completely translated into gambling. The gem version has the same basic gameplay as the original, but it is simpler in this regard. This difference is troublesome because Candy Crush is a highly addictive game for certain persons. On the other hand, the two combat games I saw were rather weak in quality. They simply did not compare favourably to the complexity and graphical beauty of video game combat. The race game I saw was exceptionally exciting, but was thus far only available as a bonus round. The airplane game provided to me with a retrospective feeling. It proved, in certain respects, really a *throwback* to the quality gameplay of the 1980s. I not certain if such an aspect would be of any interest to young gamblers. The matching game I saw was unimpressive. The Indiana Jones / Tomb Raider game was compelling and somewhat effective, but a greater number of elements of the two film series could also have been incorporated into the gameplay to make the experience of the game more satisfying to the player. It was not clear how the games would ensure profit for the casinos, but I was too preoccupied with enjoying the game to consider the cost. Perhaps profit relies on the player forgetting he or she is gambling.

According to the developers with whom I spoke, certain of these games were still in development, certain of them had already been introduced into casinos, and other

new games were currently proceeding through a test period to determine their effectiveness and potential popularity. Synergy Blue's games have already been introduced at the Linq casino (Wargo, 2019) as a field test. According a Wargo (2019), a field trial is required under Nevada gaming law. This law is a necessity, as it works to determine whether each game performs to an acceptable level, and whether that game also conforms to the valid legal requirements for gambling games in general.

The problems with these new games

These games are likely far more fun to a player than traditional slot machines and will likely appeal in particular to the younger generation, who expect more from such games than just spinning reels. I am somewhat concerned about their impact on gambling problems on the part of the young. When I was playing there was no sense of the cost of shooting fish or matching coins or matching crystals. I was too busy enjoying the games. And that was, in fact, *precisely the point to these games*. They are fun to play. As with slot games, the game just runs continuously, and all that the player sees is the wins of the matches, not the costs. The wins were clearly displayed by coins you collected while racing, through a flood of coins on screen as you won—fun, as an enjoyment process, but also, potentially, financially dangerous.

Conclusion

The last time I attended G2E, 10 years ago, the focus was on making table games into electronic games. That trend was still evident this time, but less so than it was in 2009. The new component to G2E this year was the addition of elements of video games to electronic games. The specific game-like elements I encountered at G2E were, in my opinion from the point of view of an avid strategy gamer, fairly weak, but they were considerably more fun than had traditional slot games. However, those of us scholars who work in the gambling research field, as well as in the subject areas of gambling problem prevention and treatment, need to become familiar with this new reality in games. The addition of skill elements may require some changes to the prevention and treatment information we disseminate. According to *Business Wire* (2019) within 10 years one quarter of gambling games will involve at least one specific element of skill.

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