Every single form of legal gambling was invented in the 19th Century, except bingo. You know your industry is in trouble if the most current product you offer your 21st Century patrons is bingo.

Of course there have been technological developments. But these have been evolutionary, not revolutionary.

Slot machines, for example, have evolved from the purely mechanical, to electro-mechanical, to server-based and other pure computerized versions. With three mechanical reels and only ten stops per reel, the maximum jackpot could be only $1,000, and that would be with a 100% payout to the player. Virtual stops and linked machines allowed gigantic jackpots. This was especially important with the proliferation of state lotteries, for casinos could offer life-changing prizes without players having to wait for days for the numbers to be drawn.

But the slot machine games remained overwhelmingly the same. Instead of three mechanical spinning reels, the vast majority of slot machines have five simulated spinning reels, usually with large "Q"s and "K"s, in homage to video poker. More interesting variations have been tried, but they have not been widely successful. Perhaps that is because slot machines are primarily played by people, more women than men, over 40, who don't want to have to learn new, complicated games.

Meanwhile, Millennials hate slot machines. The comment I hear most often from people under 35 when I ask them about casinos is, “Slot machines are stupid.”

Since all Millennials carry the greatest, most addictive games every invented on their smart phones, I guess they are right.

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1 If there are ten symbols on a reel with only one signifying a jackpot and there is an equal chance of the reel stopping on each symbol, then there is a one in ten chance of the reel stopping on the jackpot stop. With three identical reels the odds of a jackpot are then one in ten, times one in ten, times one in ten, or one in a thousand: 10 X 10 X 10 = 1,000.

2 With virtual stops, the random number generating computer that determines the winner is programmed so that each reel has many more stops than the number of symbols, and each symbol no longer has an equal chance of appearing. If each reel has 100 virtual stops, the odds of it stopping on a jackpot symbol can be one in 100, so with three identical reels the odds would be 100 X 100 X 100 = 1,000,000, one in one million.
Changes in technology in one part of society lead to unexpected changes in other parts. Did anyone think that the invention of the cell phone and Internet would lead to the demise of much of the photography industry? Commercial photographers used to get commissions from magazines. Now the mags, if they even still exist, search the web and buy from brokers selling great shots from amateurs. Facebook alone has 250 million images uploaded every day. And most of those shots are from phones. The small camera stores near tourist sites have almost all disappeared.

The law of unintended consequences kicks in whenever there are major technological developments. Newspapers are being killed by the Internet, but not because people can now get their news instantly online. Someone still has to write that content. And reporters and editors have been trained and have the resources. The Internet has no editor, which means that straight fiction is often reported as fact. But newspapers need advertising to survive. Most of them depended upon classified ads for their revenue. The birth of online rating services and eBay meant the death of daily papers.

Legal gaming has a special problem. As the most heavily regulated consumer industry, it is one of the slowest to change. Technology is playing havoc with the law of gambling. It is not even clear who should do the regulating.

Different forms of gambling have traditionally been viewed as creating different problems. Lotteries have been considered dangerous because tickets can become too easily available. In 1849 and again in 1903, the U.S. Supreme Court declared: "The wide-spread pestilence of lotteries... infests the whole community; it enters every dwelling; it reaches every class; it preys upon the hard earnings of the poor; and it plunders the ignorant and simple."4

Throughout most of its history, casino gaming was considered dangerous because it took working men away from factories and farms, and because wealthy, but foolish, individuals would sometimes, overnight, lose everything they owned.

Betting at a track on horse races has often been legal, while betting on college and professional sports events is almost always prohibited. The anti-bookmaking laws were designed to limit where and when wagers were made and to fight organized crime.

Charity bingo has been considered a low-stakes, social game. Laws were enacted that basically left the game alone, while ensuring that profits went to the sponsoring worthy cause.

4 Phalen v. Virginia, 49 U.S. 163, 168 (1850); Lottery Case, 188 U.S. 321 (1903).
But gambling is being transformed by technology in ways that make these distinctions meaningless. Even worse, for law-makers, the changes are unpredictable.

Daniel J. Boorstin, Director Emeritus of the Library of Congress, wrote a book in 1994 entitled CLEOPATRA'S NOSE: ESSAYS ON THE UNEXPECTED, about how the accidental and unexpected can alter the course of history. The title is from a statement by French mathematician Blaise Pascal (1623-1662), who wrote, "Cleopatra's nose, had it been shorter, the whole face of the world would have been changed."5

Today we might call this chaos theory: small changes can lead to enormous, unpredictable results. If Cleopatra had had a smaller nose, Julius Caesar and Mark Antony might not have fallen for her, and transforming the history of the Roman Empire.

Boorstin believes we have a new "Machine Kingdom" with different laws and rules from the traditional designations of "Animal, Vegetable and Mineral Kingdoms." In the Animal Kingdom, for example, species evolve through natural selection and survival of the fittest, by adapting to their environment. Machines, on the other hand, create their own environment, particularly by creating demand.6

Boorstin's observations about the ways in which new inventions affect human experience help explain how technology is changing the way people make bets:

Technology creates its own demand. Printed books created widespread literacy and the need for more printed books. Does the same work for legal gaming? One of the most popular forms of gambling today is the video poker machine. Did anyone want to play video poker, before video poker was invented?

The most potent machines invade all environments. Take, for example, the clock. “One of the surprising facts of technology is that for most of human history people had only the crudest ways of measuring time.”7 For gambling, the most potent inventions have been the video screen and computer chip. Every form of gambling, from lotteries, through bingo, poker, horse racing and casinos, can now be played on a screen, for money. And the video screen need not be restricted to a licensed location.

Inventions expand experience. Video games and home computers created the ability to play faster games more conveniently, almost wiping out slower forms of gambling. New inventions do not mean that old forms disappear – but the games do change.

Inventions blur traditional boundaries. The Internet made national borders seem like little more than lines on a map. Technology defies existing legal categories. The

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6 Id., ch.14.
7 Id., p.162.
New Jersey State Lottery and casinos in Atlantic City battled over which would have the right to run Keno games.

Is blackjack on the Internet casino gaming? There’s usually no live dealer. In fact, there are no cards tables or chips, only their images. Perhaps online blackjack is legally a lottery. Players are actually picking numbers and win if the computer on the other end says those numbers are winners. Or maybe it is bookmaking. Bettors are using wires to place bets on future uncertain events. And where does the bet take place?

Laws in the United States, and particularly definitions and fine distinctions, are often made by courts. Because there has to be a live case before a judge can rule on a question, many of the issues of where to draw the lines with online gaming have simply never been addressed by even trial courts, let alone final courts of appeal. One of the few Internet gambling cases that did result in a final judgment held that Internet casinos were gambling devices like slot machines. But the case involved a guilty plea and an unusual set of facts.

The Attorney General of Missouri had obtained a permanent injunction against the online casino, located in Blue Bell, PA. Although the casino had agreed not to accept any applications from Missouri residents for casino gambling services, it did, including from undercover agents. Although the defendant was enjoined from marketing in Missouri, and from representing that its services were legal in that state, it continued to take wagers from Missouri. The defendant’s president was ordered extradited to Missouri to stand trial. Rather than face a possible prison sentence, he pleaded guilty to a criminal indictment that he had "traveled to" Missouri, through the magic of the Internet, and "set up" a "gambling device." The gambling device was the undercover agent’s personal computer.

The lesson is not that Internet gambling is a slot machine. See, for example, the problems the governor of Kentucky has had trying to seize domain names under the Commonwealth’s gambling devices statute. The real lesson is that if you have agreed and even been enjoined from not taking bets from a jurisdiction, don’t take bets from that jurisdiction.

Inventions are increasingly intrusive. Boorstin uses recorded music, which seems to be unescapable. Cars and television are dramatic examples, but so are computerized games. Many of the so-called social games offer additional goodies for players who are willing to spend small amounts. Some of these look a lot like traditional casino games; only they are a lot more interesting and fun to play.

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Technology becomes ever more unintelligible to its users. Patrons really do not care whether their slot machine is a true slot machine – now often called a Class III gaming device based on the Indian Gaming Regulatory Act – or a Class II bingo game. In Mexico, operators often have what they call Class 2.5 machines; especially ironic because Mexico does not have a statute like IGRA, so there are no actual classes.

What is a Video Lottery Terminal? My definition of a VLT is a slot machine that is legal under the state’s lottery laws, and therefore technically not a slot machine, even if it plays exactly like a slot. Rhode Island VLTs, for example, take coins, pay coins, and have handles or buttons that operate spinning reels.

There is no task that cannot be done by a more complicated machine. The mechanical three-reel slot machine has been replaced. But even bingo today is not played only with hand-drawn numbered balls and paper cards covered with beans.

Inventions cannot be uninvented. The law can react, after the fact, to unexpected developments. But if the demand has been created, technology will eventually find ways of getting around the legal barriers.

Will the law be able to cope? Law constantly has to adjust to technological developments in gambling, designing new means of control. As Boorstin put it, "For us invention has become the mother of necessity."

So what will the future forms of gambling be like? The immediate future is more computerized games played on monitors. The Internet and mobile phones will not be replaced any time soon. Players have shorter and shorter attention spans and want convenience, so remote wagering will thrive, once suppliers and operators develop games that are as appealing as Angry Birds® and Candy Crush®. Regulators will have such a hard time keeping up, that independent labs will grow even more important.

In the intermediate and long term, we cannot know what inventions will revolutionize our lives, let alone the unexpected consequences they will have on legal gaming. But there are clues. Look at what becomes popular for non-gambling games and other forms of entertainment. If the technology catches on and becomes less expensive, virtual casinos may become truly virtual. Movies and non-gambling games are going beyond 3D into extra dimensions of experience. Not only motion simulators but also headsets which allow audiences to have 360 degree views of the artificial world they have entered.

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10 The sole exception may be the gun in Japan. Firearms were disrupting the traditional hierarchy, for a farmer could kill a samurai at a distance. So laws were passed to tax and then outlaw ammunition and the manufacturing of guns, until the island nation was gun free. This turned out to be not such a great idea centuries later, when Commodore Matthew Perry sailed his gunships into Tokyo bay in 1853.

What will the games themselves look like? We know what succeeds with casino gamblers. The game must be easy to learn with a small house advantage or fee. Frequent, small prizes act as positive reinforcement, but there should be the possibility of a very large jackpot. Play must be fast, but not too fast to follow. And, the most successful games have at least the illusion of skill.

The 19th Century games offered by 21st Century casinos will continue to exist for older players, and for younger ones, if modern versions can be developed. But the casino of the future will not have paper playing cards or wooden roulette wheels. Those ancient inventions will become as scarce as mechanical three-reel slot machines.

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