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Fertile Ground for Cultural Change

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Games and the Internet: Fertile Ground for Cultural Change

Introduction

There has been much interest in recent years in online games as an economic and social force. Virtual currencies such as Bitcoin were first created inside online games, and have been the focus of a significant study by the ECB (2012). Many researchers and policy analysts are interested in using games for serious purposes. There are games for education, games for science, games for health, and games for public policy.¹ Meanwhile, the commercial digital game sector remains very strong, even as other media industries suffer decline.²

All of this activity suggests that many observers believe that games represent a powerful cultural force. Games are not like previous media, which were largely passive. Games entertain people by allowing them to act. People watching TV may change their minds, but people playing games change their minds while doing something. Often, the things gamers are doing are not very significant. What if the game design allows their actions to be significant? We live in an age in which a large number of simple clicks can change the world. Can games generate such a world-changing wave action?

I will address this question first by considering the nature of cultural change. Then I will discuss recent research into the cultural impact of games. Finally I will place games in the context of the Internet. I conclude

1. For example, *Darfur is Dying* puts players in the role of a person in the suffering Darfur region in Africa; *Foldit* lets players fold proteins to minimize energy use; *PlayMoolah* teaches you how to manage money; *SmartDiet* helps people manage weight.

2. U.S. music industry revenue was \$38b in 2000 and has fallen to \$16b. U.S. movie revenues have remained between \$10b and \$11b since 2009. Global TV ad spending was up 4.3 percent in 2012–13 while newspaper ad revenue is off more than 80 percent since

2000. Game-related sales topped \$21b in 2012 and are growing at 10 percent per year (Blodget 2012; Nielsen 2013; Pfanner 2013; Smith 2012; ESA 2013).

by suggesting that, now that games have been unleashed on the Internet, they have great potential to create vast cultural change.

Cultural Change

I will adopt a game-theoretic approach to culture (Boyd and Richerson 1988). Culture, in game-theoretic terms, is a state of social equilibrium regarding symbols (Schelling 1960). The symbol + has meaning only insofar as all users of the symbol agree on the meaning. In our world and our time, + refers to the additive operation in mathematics. It has this meaning only because everyone agrees on this meaning. There is however no necessary connection between the symbol and the meaning. The same process that makes + a sign for addition could just as easily make it into a sign for a sound. We could write the letter *a* as + and, so long as everyone understood the underlying meaning, no meaning would be lost. There is no theoretical difference between “The man sat on his chair” and “The m+n s+t on his ch+ir.” There is an immense cultural difference between the two sentences, however. One culture refers to the letter *a* with “a” and the other refers to it with “+.”

Cultural differences have large practical effects. Two people who do not share the same understanding of symbols must spend time negotiating the meaning of terms. There may be misunderstandings, which may lead to mistrust or even war.

In game-theoretic terms, culture is the result of a large interlocking set of coordination games. In a coordination game, people do best by doing what others do. Driving is a good example. In most countries, you drive on the right side of the road. This makes sense because everyone else drives on the right side of the road. If you chose to drive on the left, you would get into a terrible accident. Nobody likes accidents, therefore everybody conforms to the simple rule “Drive on the right.” However, there is no theoretical difference between this rule and the opposite rule, “Drive on the left.” In some countries, “Drive on the left” operates with all the force and power as “Drive on the right” does in most countries. These two rules are exactly the same in their power and expression, but radically different in their effect on behavior. Driving is a coordination game with two outcomes,

Left and Right. Neither outcome is *better* than the other. Each is equal. They just require coordination on different behavior.

Cultural change is the process by which a culture coordinates on a new set of behavior. This has two aspects, innovation and adoption.

Innovation

In order for a culture to change, someone in the culture must conceive of a new point of cultural equilibrium. This is not mere fantasizing. Cultural forms that cannot happen are not credible. Dreams about cultural forms that are not feasible are the bugbear of many idealists, but there is a difference between idealists and innovators.

A cultural innovation is a cultural equilibrium that is not in force now but could be. In a right-driving country, left-driving would be such an innovation. Innovations can emerge in several ways. They may spontaneously come to the minds of several or many people at once. It has been said that most people in Eastern Europe in the 1970s and 1980s were aware that a quasi-capitalist society would probably be better than communism. It was not a movement so much as a general awareness.

Innovations may spring from the mind of an inspired theorist or an inspired intellectual tradition. This seems to have been the case with the notion of elected representative democracy, which had its roots in Europe as far back as ancient Greece but was driven along by such people as the nobles who wrote the Magna Carta, the Protestant reformers, and the Enlightenment philosophers.

Innovations may occur when a group of people establish their culture in a way that the rest of society does not. At times this is explicit, as when Amish folk in the United States purposefully keep themselves apart from the broader culture. At other times it is accidental. Christianity somehow came to Ireland in the third and fourth centuries AD and developed an ecclesial organization based on monastic houses rather than the system of bishoprics which was the norm everywhere else. When the Celtic Christians encountered the Roman Orthodox Christians in northern Britain in the sixth century, the Synod of Whitby was called to bring the two practices into conformity.

Finally, cultural innovations may be explicitly designed as such. Religious reformers designed ideal communities—most failures—with the explicit goal of showing the rest of the world how living is to be done.

The advent of advanced communications made possible strategies of *propaganda* and *tactical media* with the explicit intent to change how a culture thinks, works, and judges.

Adoption

Cultural change occurs when a cultural innovation is adopted by society at large. It becomes the new equilibrium. In order for that to happen, people must change their behavior. And in order for behavior to change, people must first change their minds.

The role of expectations

In game theory, expectations of behavior have a critical effect on which of a number of possible equilibria actually occurs. If a person expects that everyone else will drive on the right, she will drive on the right also. If she expects everyone else to drive on the left, she will drive on the left. Everyone thinks this way. The right-driving equilibrium occurs because of the universal expectation that it will occur. If the universal expectation were left-driving, then left-driving would occur. In cultural affairs, expectations create the conditions for their own fulfillment.

Gradual change

Cultural change then involves changing expectations. Some times this happens gradually. Consider inflation. Inflation is a process whereby the common understanding of how much a piece of currency is worth changes over time. It is, today, a purely cultural affair. Money is no longer backed by a specific real item, such as gold or silver.³ Money has value simply

3. Or beaver pelts, as once was the case in Finland.

because we all expect it to have value. Because of that expectation, we accept money in exchange for real goods and services. We do this only because we expect other people to accept our money in turn. However, every year, the money loses a little bit of value. Most advanced forms of money experience inflation of 1 to 5 percent every year. It is too small for most people to notice. Yet over the course of several decades, the change in the value of money appears quite substantial. In America, a pound of hamburger cost \$1.39 in 1981; today it costs more than \$3.00.⁴ There has been no major change in the economics of cow-making or the demand for beef. The price change is largely the change in the value of money.

Cultures can change slowly and gradually. Everyone shares the same understanding of a concept, and everyone has similar expectations about the behavior of others, but, these understandings and expectations shift slowly over time.

Certain innovations can spread this way. Fashion is an example. It was once the case that every professional person had to wear uncomfortable clothing. Anyone who did not was treated with disrespect. Fashion is like that. Any thinking person is aware that clothing is meaningless, yet it is understood that clothing choices express a certain stance about clothing. As a result, clothes are taken to be a measure of how well the wearer understands social affairs. Attire may make one out to be a rebel, or strange person, a conformist, a professional, a leader, or simply an idiot. Just what kind of clothing is required to trigger these judgments, however, changes gradually every year. Fashion innovators are acutely aware of their role in generating new standards and propagating them.

Abrupt change: revolution and policy

Culture can change rapidly as well. This can come from the ground up as in the East European revolutions of 1989. It can also happen as a result of policy. In 1967, Sweden changed from driving on the left to driving on the right. It was done all at once. At 4:50 a.m. on September 3, 1967, all

4. A Thanksgiving brunch at a Hilton Hotel was \$11.95 per person in 1981. In 2013, it cost

\$32.95. Compare <http://www.gti.net/mocolib1//prices/1981.html#thanksgiving> and <http://>

www.sandestinbeachhilton.com/events

Swedes stopped driving on the left. For the next ten minutes, they were not allowed to drive at all. Then at 5:00 a.m., the Swedes all began driving on the right.

Underlying conditions largely determine whether cultural change is gradual or abrupt. When culture can change gradually, it generally does so. In a few cases, however, gradual change is not possible, and in these cases only abrupt change can happen.

When is gradual change impossible? It is impossible when it is strictly disadvantageous or even dangerous for one person or a small group of people to change their behavior. This is clearly the case with driving. Any one person or small group of people living in a right-driving society that suddenly decided to drive on the left would soon be injured or killed by car accidents. It was also the case in Eastern Europe in the 1970s and 1980s. Although everyone knew that the current system was not very good, any one person who said something would be sent off to jail. So no one spoke. This continued until Gorbachev started speaking openly of *glasnost* and *perestroika*, signaling that those who proposed change would not be hustled away. At that point, everyone began speaking; everyone became aware that everyone felt communism was doomed; therefore everyone's expectations of the future of communism changed from *perpetual* to *doomed*; therefore, everyone's behavior shifted from "Accept things as they are" to "prepare for the end of communism"; therefore communism was doomed. It went away very quickly.

In circumstances where it is impossible or dangerous for one person to make a change, the possibility of change is still there but it remains latent.

Change requires some common signal, indicating to the whole society that it is now time to jump into a new world. Such times are called revolutions.

Those who live through revolutions often remark on their sense of amazement, how things that seemed so impossible only days before should suddenly become not only possible but completely normal. And vice versa:

they also express amazement that omnipresent behaviors were suddenly banished from the world overnight, as if by magic.⁵

Of course cultural change is not magic. It proceeds according to known forces involving expectations and behavior. How are these things affected by games?

Games and Culture

Games are powerful cultural artifacts. Games instantiate play. Play can occur without a game, but when you put a game in action, play will generally occur. Games are a tool by which to bring play to bear on a situation, and play is believed by many scholars to be a critical driving force in social and cultural affairs.

Play and the origins of culture

Robert Bellah has recently written an exhaustive study of the origins of religion prior to the rise of modern civilization. Bellah's theoretical framework places play at the center of culture. In so doing, he continues a line of thought that goes back as least as far as Johan Huizinga (1938) and includes many astute critics and commenters (Borges 1941; Caillois 1958; Baudrillard 1981; Eco 1988; Sutton-Smith 1997).

The essence of this reasoning is this: when people play, they step formally into a world of make believe. In this make-believe world, anything is possible. Unlike fantasy, which is a mental place inhabited only by the person doing the fantasizing, play is inhabited by many people at once.

5. I once spoke to a German woman who was 12 when World

War II ended. "We started school every day with 'Heil Hitler.' Then

one day it was just 'Guten Morgen, Herr Professor.' And that was it!"

It is therefore a site of collective fantasy. In these collective fantasies, people can become aware of new possibilities for the culture of the real world.

In America, for many years of the twentieth century and perhaps earlier there was a tradition called the Sadie Hawkins Dance. For a Sadie Hawkins Dance, the girls invited the boys. This reversed the usual social role. In so doing, the Sadie Hawkins Dance exposed all members of society to the simple idea that there is actually no good reason at all why a girl could not ask a boy to attend a dance. After a Sadie Hawkins Dance, the boys and girls could see that it was not the end of the world for the sexes to be equal. Suggested and implemented as a moment of harmless play, the Sadie Hawkins Dance enabled a large-scale awareness of the possibility of a different equilibrium, one that is certainly no worse than the current one and perhaps even better. It was a site of cultural innovation.

Another way to see the cultural importance of play is to recognize that most of serious society involves some sort of coordination. We are all dancing with one another, attempting to operate under shared principles, or, if in an innovative mode, we are attempting to influence how others will dance. All the social world bears a veneer of imaginary significance, a fact that has been highlighted by writers from Shakespeare to Borges. Even the serious parts of culture are infused with the same sort of coordination problems as are made explicit when we play. The rules of the game are *everywhere*.

The shift from emergent games to designed games

Through most of human history, play was an informal emergent property of human social behavior. When embodied in ritual and protocol, play become more formal but was still emergent. There is no identifiable moment in human history when a known person announced that worship of the gods will involve a public sacrifice. The innovation is buried in the mists of time.⁶

6. My sons play a game called Four Square at their school. One day they asked me who invented it. My reply was, "Nobody. Four Square just lives there." Cultural equilibria are similar to living organisms in which we humans

are the component parts. As the children come and go, Four Square molds them into a recognizable pattern. Four Square also induces them to copy its rules and transmit them to new children. Thus the form of Four

Square is passed on from year to year. The game rules are like DNA, the children are like proteins, and the playground during a Four Square game is like a cell.

With advanced civilization, however, the design of play opportunities became like everything else: a formal and conscious affair. While no one knows who designed chess, we do know who designed Monopoly, and when. Objects intended to facilitate play, such as balls, came to be explicitly and evenly scientifically designed in pursuit of a formal performance expectation.

Today, the share of all play that stems from emergent practice as opposed to designed games is quite small. When people play, they are following rules conceived by someone in recent history.

Those rules, as before, structure their behavior. But now there is a consciousness behind the manipulation. If play is now designed, then behavior is now being manipulated by a designer.

The personality and intentions of game designers have come into high relief. Distinctions are made between commercial designers, who generally just want to make an honest living, and serious game designers, who are trying to make the world a better place. There are also the *indie* designers who make games for the sake of the art. All of these designers compete with one another for the play time of the people, which in our age is increasingly gladly given.

Games and the Internet

The Internet does not change what games are but it makes them vastly more effective at what they do.

Persistence and scale

With computers and the Internet, a game can now be kept going on a persistent basis for all time among millions of people. It used to be that only the *real* world had that property. You used to be able to identify games by their short time frame, limited geographic area, and small number of players. No more.

Computer games already exist that cover many thousands of square miles; that continue for more than a decade; and that involve more than 10 million players at a time.

This is just for *existing* games. Current technology would allow much bigger achievements. The commercial game industry has every incentive to push outward on all these dimensions, and it certainly will.

What happens when a game gets so big it is indistinguishable from real life? Borges (1941) speculated about this quite a bit. The core mechanics of society and games are the same; both involve a certain kind of dance or coordination among all the people. The only real difference used to be that games were small, local, and limited. Since they are no longer restricted in this way, there is no reason why games could not grow to such a scale that they replace important aspects of the real world. At sufficient scale, a game could *become* the real world.

This may be going too far, of course. Leaving this gargantuan possibility aside, then, we will focus below on games as a site of innovation. The point to take away here is simply that very big, very long, very populous games can look an awful lot like a real social world, a real culture.

The maker revolution

The Internet has also introduced a further development in the production of games. I said above that play was once emergent and is now largely designed. The profession *game designer* has come into being. But already things are changing again. New software products are emerging that allow anybody to make games for anyone else.⁷ This development seems to parallel developments in music and film, whereby just about anybody can make a music video or a short film. This kind of creativity will not be the exclusive domain of professionals. Lots of people will get into the act.

7. Construct 2 for example costs only \$60 and can be used to make an incredibly wide variety of games.

When millions and millions of people make small things on the Internet, one of them eventually blows up and makes a difference. The explosion is completely unpredictable, except in the sense that we know an explosion will happen.

Where, who, when, of what content—no one can tell. Thus we cannot begin to predict what kind of huge and hugely popular games may be invented in the near future.

How Game Designers Will Change the World

If we put these strands together, a picture emerges in which culture changes dramatically as a result of Internet games.

Games as sites of innovation

A large, persistent game is a very good site for cultural innovation. A game is generally a safe space; all agree that the game is just a game, and that nothing in the game really matters. Therefore people feel more free to experiment and express themselves in new ways.

If individuals feel a sense of freedom in games, so do groups of people. If one person innovates a practice, other people are more likely to assess it fairly and perhaps even adopt it—simply because it does not matter. If a group of *different* people emerges, there is no particular reason for them to fear persecution as a result of their behavior. It is just a game, after all.

With an Internet game, the scope of such innovation groups is very large. They could acquire thousands and thousands of people from around the globe, and they could persist safely for many years. In a large game, such a group could expose many millions of others to its behavior. All of this makes adoption by the real world more likely.

Internet games as adoption systems

Adoption could follow one of two paths.

Gradual

Some in-game behaviors may involve subtle changes in behavioral expectation outside of the game. For example, it is common in games for men to use female characters and women to use male characters. It is therefore not strange to encounter a female character who uses male language patterns, and vice versa. A person who spends much time in games where this is true may gradually change his expectations of language outside the game, and not be particularly shocked by a woman who happens to talk like a man.

This seems to be the case with virtual currencies. In games it became common over the years to trade real money for virtual money that was valid only in a certain game. Despite its virtual character, people came to expect that game gold would have a persistent value. As a result of this shift in expectations, people are more willing to trade in virtual currencies like Bitcoin and the Amazon Coin.

In such cases, practices spawned in games may spread slowly into the outside world.

Abrupt

Conversely, there may be a great leap. A designer may produce a superior way of life that is quite feasible for people today yet utterly incompatible with current culture. In this case we would expect the game population to grow and grow, while the outside world does not change. Then at some tipping point, the outside world would leap with both feet into the new way of living.

Thus games may be seen as incubators of major cultural change.

Conclusion

The role of designer comes into high relief indeed. People who make Internet games today have the power to change our cultural world. Perhaps they will create a small change that seeps into our daily lives, changes our expectations slowly and subtly until one day, decades later, we suddenly realize that our culture has changed forever. Or perhaps a designer may invent a very new and very wonderful world that solves many of our problems and helps us to live as people ought to live. A tension will arise between the in-worlders and the out-worlders; it will be resolved in favor of the in-worlders eventually, but not without a great deal of stress.

Who will make these wonderful new worlds? Perhaps game designers; perhaps elite creators in other fields. But we can expect ordinary people to come to the fore eventually. An isolated genius, probably already alive today, will design the game that changes our lives forever.

As empowered by the Internet, games today are a demonstration infrastructure for that new City on a Hill. Many such Cities will be built, and some will directly point the way to our future.

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