POLICYBRIEF

GAMING OUR WAY TO A BETTER FUTURE

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SUMMARY

As today's policy challenges become more complex, it has become clear that American media — online news, television, radio, newspapers, and magazines — are not up to the task of explaining the problems underlying them or providing citizens with all the information they need to engage in public conversations about them. Democracy cannot function properly without those conversations. But one new medium - videogames — may well fill the gap. By their very nature, videogames can engage players in ways that enable players to make their way through the intricacies of policy problems. As players begin to understand them in all their complexity, games may well help their governments forge solutions.

About 40 years ago, a number of political and social scientists began to discuss the idea of *wicked* or *messy* problems—problems that lacked well-defined problem statements, right or wrong answers, or simple linear solutions.[1] Fast forward a few decades, and we are awash in these problems—from reversing climate change, to providing affordable health care, to addressing threats from nonstate actors. A distinguished group of public servants has endorsed Leon Fuerth's effort to make government better at addressing wicked problems—deft at anticipating and managing events and crises rather than just reacting to them. However, what we face today is more than a weakness in the tools and technologies of governance. We also face a mismatch between the complexity of these policy challenges and the utter inadequacy of our media to communicate complexity, which deprives our citizens of the ability to engage in the conversations we urgently need around national and international issues.

In the 40 years since wicked problems were first identified, one medium has emerged as the most

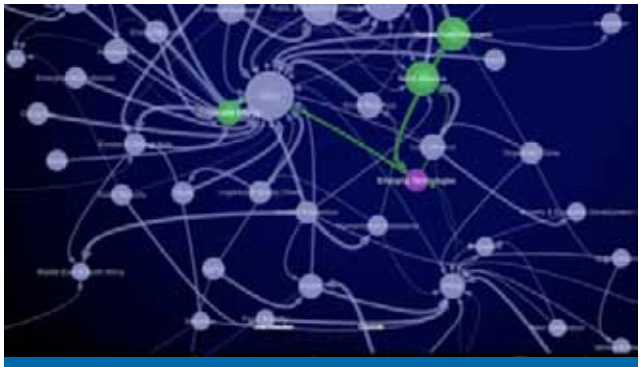

Figure 1. An image of a "wicked problem": the Constellation of Global Agenda Councils, World Economic Forum 2010 (D. McLaren).

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effective method of enabling citizens to learn about and engage with such problems. It is the medium that emerged at roughly the same time as the messy problem—paradoxically in a package that could hardly have looked neater.

IT'S THE VIDEO GAME.

The strength of the video game at communicating and addressing complex policy issues is in its very bones. As Katie Salen and Eric Zimmerman explain in their book *Rules of Play*, inside a game—what constitutes it—is a system: a "group of interacting, interrelated, or interdependent elements that come together to create a complex whole."[2] The pattern or experience that the system as a whole creates is different from that created by those individual parts. The player's input also helps determine that experience. Consider chess. There are rules for how each piece is initially positioned and can move and capture other pieces. But the pieces' strategic relationships to each other—how pieces can actually force checkmate in a given game—are actually determined by those pieces' spatial relationships on the chessboard's grid and by the player's ability to spot and exploit opportunities to win.

In complex systems of this sort, the outcome is said to be "emergent," which means that the player's experience of the game is context dependent—shaped not only by what the player does but also by what is happening in the other entwined parts of the game over time. A game is the "same but different"—identical in structure each time it is played but producing a different outcome according to what the player does and how the rules play out in each specific instance of play.[3]

The structure and complexity of games make them effective tools for investigating wicked problems and seeing the ramifications and trade-offs dictated by policies designed to address them. Like games, policies also can be seen as systems—structures created by the interrelated rules, regulations, and other mechanisms by which policymakers try to close a gap between reality and a goal. A policy's interrelated structures create an extended system that determines or shapes the user's experience, which differs depending on choices and context. Just as games' outcomes can be emergent, policies can have unintended consequences that a game version of a policy can reveal.

The structural similarities between games and policies make games particularly good at providing a direct, concrete, and personalized experience of what a policy's ramifications might be; how those consequences might differ from user to user; and how making one trade-off produces an outcome different from that of another trade-off. That likeness is also why, after searching in vain for enough game designers in the 1990s, Alan Gershenfeld, who was then head of Activision, hired lawyers to work on games. That's right: because lawyers are trained to structure the system of laws and regulations, to consider those rules from every angle, and to look 10 steps down the path to see the effects created by such rules, Gershenfeld hired lawyers to design commercial video games. The gambit worked; the lawyers understood gameplay. Activision Blizzard rose from a company barely out of bankruptcy to become the largest video game company in the world, with $4.8 billion in revenues in 2011.

Games produce a whole set of additional benefits. First, games such as the Wilson Center's *Budget Hero* (http://www.wilsoncenter.org/budget-hero) create what Yale University computer scientist David Gelernter calls "topsight"—an understanding of the big picture.[4] This "view with context" is almost completely absent from the politically parsed soundbites of our politicians and journalists. Video games are very good at making complexity accessible by providing a platform that combines the big picture

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with layers of underlying detail. In fact, complexity makes games more challenging and fun—a strategy that seldom works with an op-ed, PDF file, or policy tome.

Second, games' interactivity transforms players from spectators into actors—participants with agency. Games engage players; they do not just inform them. Television, radio, films, and blogs are largely passive media that support a one-way delivery of information. Although these media can be persuasive, they do suffer from a major weakness: they are typically heard only by those already partial to their point of view. It is not an accident that the presidential candidates and their running mates devoted two-thirds of their late campaigning to just three states—Florida, Ohio, and Virginia, the homes of just one-eighth of the nation's people—and that they visited only 10 states in total after their respective party conventions. (By contrast, in 1960 John F. Kennedy campaigned in 49 states to win his razor-thin majority over Nixon, who campaigned in all 50.)[5] Cognitive science has shown that individuals tend to filter out information that is inconsistent with their own point of view. Indeed, Americans of like mind have even been moving to the same towns. Bill Bishop explains, "Technology, migration, and material abundance all allow people to 'wrap themselves into cocoons entirely of their own making.' People are unwilling to live with trade offs."[6]

The brain's tendency to filter is a costly one, as it blinds individuals to the facts, experiences, relationships, and insights of others. Games can circumvent the brain's tendency to filter out the unfamiliar, which means that they can radically increase players' knowledge and empathy. How do they do it? Games permit players to step out of their own shoes and inhabit the role of another. Well-designed games oblige the player to set down stakes in that other role, behaving like and seeing the world through the eyes of that other.

In the past 40 years, games have succeeded television as the technology-based mass medium that changes how we think about ourselves and the world. In 2011, American consumers spent $24.75 billion on video games, hardware, and accessories. Sales of video game software generated $16.6 bil-

Figure 2. Pong.

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lion, surpassing films. Today there are more than 180 million game players of all ages in the United States, and more than 40 percent are female. Game use is increasing by 10 to 20 percent per year and is expanding onto smartphones, which have almost 100 million subscribers in the United States alone. Gone is the solitary gamer: 62 percent of players play with others, either in person or online, and 78 percent play with others at least one hour per week. An increasing number of "grey gamers"—players over 60 years of age—are also playing video games. As the *Economist* recently stated, "Video games will be the fastest-growing and most exciting form of mass media over the coming decade."[7]

The use of games is particularly promising for the young—the *digital natives* in our societies, whose skills and understanding will shape a new generation of politically informed and engaged citizens. Among the millennials (18- to 29-year-olds) whose political attitudes were surveyed in a study released by Harvard's Institute of Politics in October 2012, fewer than half reported an intention to vote on Election Day.[8] (About 49 percent of these millennials did turn out on Election Day.) While those young people cited a deep commitment to the country and community, they also expressed a belief that Washington is broken and that the nation's elected leaders have not adequately matched or appreciated the faith the electorate has placed in them. Video games are a promising route to reengaging these millennials—the 46 million 18- to 29-year-olds who constitute the largest generation in the nation's history. Games can trigger active forms of citizen engagement, allowing Americans to pressure their elected representatives effectively or to circumvent those representatives altogether.

Games' structure—their management of complexity and their ability to force players to confront trade-offs—makes them very powerful learning tools. Players benefit from the ability to rapidly test hypotheses through "what if" scenarios. Games can also provide new spaces where researchers and scholars can observe human behavior in complex systems and explore public preferences. For instance, the Icelandic economist Eyjólfur Guðmundsson studies the virtual economy of the massive multiplayer video game (with more than 400,000 players) called *EVE Online*. Similarly, *Budget Hero*, the national budget game developed by the Wilson Center and American Pubic Media, provides a constant flow of data on player preferences for the fiscal policies facing our decision makers.

Policy analysts, policy foundations, and policymakers themselves have begun to see the potential of games for engaging the public. In 2004, a small group met in New York City to organize Games for Change. The first Games for Change meeting attracted only 35 people. Eight years later, in 2012, the Games for Change conference attracted more than 800 people, with another 11,000 watching the conference via live streaming at http://www.gamesforchange.org.

More recently, the Obama Administration's Office of Science and Technology Policy has begun organizing federal agencies to use video games both to train their own staff members and to engage the public in their most pressing policy issues. As the office has acknowledged, though, this is just a beginning. The Serious Games movement needs to continue refining its vision and strategy, and it must secure the public and private financing that will make this work possible.

There is a very clear precedent. In 1967, the federal government awoke to the power of another medium, television, to advance and disseminate public policy. President Lyndon B. Johnson established the Corporation for Public Broadcasting, explaining that "we have only begun to grasp the great promise of the medium." As a new venue for change, it was reaching only "a fraction of its potential audience—and a fraction of its potential worth."[9] The new medium of games, which is more interactive than television, presents yet greater opportunities for educating and engaging both the government and the public in the great policy issues of our time.

ENDNOTES

1 For instance, such researchers included Horst Rittel and Melvin Webber at the University of California, Berkeley, and Russell Ackoff at the University of Pennsylvania.

2 Katie Salen and Eric Zimmerman, *Rules of Play: Game Design Fundamentals* (Cambridge, MA: MIT Press, 2004).

3 Ibid.

4 David Gerlernter, *Mirror Worlds: Or the Day Software Puts the Universe in a Shoe Box … How It Will Happen and What It Will Mean* (New York: Oxford University Press, 1992).

5 Adam Liptak, "The Vanishing Battleground," *New York Times*, November 3, 2012, http://www.nytimes.com/2012/11/04/sunday-review/the-vanishing-electoral-battleground.html.

6 Bill Bishop with Robert G. Cushing, quoting J. Walker Smith, in *The Big Sort: Why the Clustering of Like-Minded America Is Tearing Us Apart* (New York: Mariner Books, 2009).

7 "All the World's a Game," *Economist*, December 10, 2011, http://www.economist.com/node/21541164.

8 "Survey of Young Americans' Attitudes Toward Politics and Public Service: 22nd Edition" Institute of Politics, Harvard University, October 17, 2012, http://www.iop.harvard.edu/fall-2012-survey.

9 Lyndon B. Johnson, "Education and Health in America," speech delivered to Congress, February 28, 1967.

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