



Approaches,
Issues,
Applications

edited by **Steffen P. Walz** and **Sebastian Deterding**

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POSITION STATEMENT
LOSING IS FUN

McKenzie Wark

If “Never work!” was the apex of critical strategy in the twentieth century, perhaps “Never play!” could be the same point of extreme negation for the twenty-first. It is of course almost impossible to never work, but it at least defines an ambition: to abolish wage labor and the commodity form.

It was and remains a surprisingly popular ambition. The cycle of struggles in the overdeveloped world in the late twentieth century took it as their lodestar, whether unwittingly or not. The whole counterstrategy of making work seem like something else, like play even, stems from the boredom that both wage labor and the commodity form generated.

This boredom is spreading even to what was once called the underdeveloped world. By their tens of millions, peasants left the land, in China and elsewhere, and in some cases ended up in the factories that make the world’s commodities. But it’s getting harder to keep them there. The riots and suicides at Foxconn are just the tip of the iceberg. Nobody much likes to do this sort of work if there’s any option.

In the overdeveloped world, work is only one of the ways of creating a value chain and extracting a profit. The more advanced form of spectacular economy extracts value from play. This is why the critical slogan of the times might need to be “Never

play!” Where play was some kind of alternative for so many late-twentieth-century avant-gardes, from the Situationists to the Fluxus movement to the New Games movement, the overdeveloped world in the twenty-first century is all about recuperating those energies, those desires, those appetites, for the commodity form.

There are several versions of the recuperation of play. Sony Playstation once had a perfect slogan for it: “Live in your world. Play in ours.” The exciting, fun stuff was not to be found in the world of work and the everyday. It was to be found in another, much more interesting world, one branded and metered by Sony or one of its competitors. The meta-game among competing firms was to find the best ways to commodify all those playful urges that wanted something other than what the commodity offers.

While we might like to think, when we turn on our smartphones, that they are there for us to play with, it’s more that the possession of one turns you into a nonplayer character. You are now emitting a string of data, about location and activity, with which Apple and Google and Facebook and Samsung and Amazon and all the rest get to play the meta-game. The game that seems to be for us is really for them. They play against each other, with us as the nonplayer characters, the meatbots.

The goal of the game is to turn the push-pull of data between us nonplayer characters and between us and our devices into money. It doesn't really matter how. It could be by selling things to the nonplayer characters. It could be by selling the nonplayer characters to others, to advertisers, for example. It could be by harvesting data from us and looking for patterns in that data that might suggest new ways of commodifying the game.

There's both a game and a play aspect to this, closed worlds and open-ended ones. The closed worlds are games or game-like activities in which play can be offered up, seemingly voluntarily, and from which value can be extracted in an orderly fashion. There will always be cookies. They are not for you.

The open-world play spaces are a bit different. They concern the design of the games themselves. Every interaction with your laptop or tablet or smartphone yields moves in the game, but are also play actions that map the potential space and possible design flaws of the games themselves. To play is also to game-design, to yield up bits of an aggregate of play-test data, which shapes the future iterations of the devices and software themselves. One does not buy products any more so much. One buys prototypes, with which one plays to yield design cues for the next prototype.

It's like Philip K. Dick's novel, *The Game Players of Titan*. It seems like we are playing some vast and incredible game, but really we are the tokens, not the players. It's the Vugs that play, and they play on Titan, on another world, in a meta-game of which one occasionally gets hallucinatory glimpses. Apple or Google or Samsung look in one light as if they are terrestrial companies. In weird moments, one sees them rather as the Vugs of Titan, playing their own meta-game by their own rules.

But there's another game, a meta-metagame. A game both us nonplayer meatbots and the Titans play. Both us and the Vugs like to think there's other worlds. We get our Sony Playstation-type games to play in, they get their meta-game that games our interactions with those games. But both are just subsets of the meta-metagame: a game that has levels, of increasing difficulty, but in which you can't start over. There's no reset. Its slogan is not Sony's, but the slogan of Dwarf Fortress: "Losing Is Fun."

One version of the meta-metagame is called climate science. It's a game that has a lot of distractors. We notice mostly the other players and make our gamer identities based on our rank against each other. Occasionally we see the Vugs. Your social network provider changes the rules to extract more value, so you quit and chose another one. Facebook (or whoever) loses a meta-game point—but not to you. They lose it to whoever you give your playtime to next. As for the Vugs, they don't notice much. They think they are on Titan. They think they have someplace else to go.

But there really is only one meta-metagame. All the games and meta-games are nested within it, like Easter eggs. Games, in their separateness, always have an externality. There's always a resource external to the game that its internal resources draw on. If it's a computer game, for example, there's always the power cord or the battery that powers the game and its internal decisions. This externality is doubled. Play always has an external input, but also an output that is put back outside the bounds of the game. There is always waste. There is always something not accounted for in the score, the result, the decision. And so there is always a meta-metagame, beyond the games and meta-games, the root game in which both externalities meet.

To play the game is always to treat as purely external the input of energy and the output of waste. And while games are in a sense always systems, they are always closed systems. We used to think that the closed systems of our games and meta-games nested inside an open system from which they drew freely and into which they could quietly extrude any remainder. But it turns out that the game at root is also a closed world. It has an external input—sunlight, source of all our power-ups. But it has nowhere for outputs to go. The game is closed.

That's why, if there's a game that might be emblematic for our time, it's Dwarf Fortress. It's a

game that has very little traffic with the meta-game. Just go download it, play it, send its designers some money as a gift if you like. There's no data trail issuing from it. It doesn't help any Titan to battle another for the world's resources.

And yet, despite its tiny size, it opens up into a remarkable world, with a physics engine that generates realities your characters may not even touch in their play. And if, like me, you are less than totally dedicated to playing it, you will lose. Again and again, and badly. And each time you play, and lose, the givenness of a whole world will appear briefly, then wink out of existence. It's excellent training for these times.

GAMES AS DESIGN ARCHETYPES

John M. Carroll

Games comprise a distinctive and, to some extent, a pure subtype of interactive systems. For the most part, people interact with games primarily for the qualities of the interaction itself. This suggests a research strategy of understanding game designs in order to draw general lessons for the design of interactive systems.

In the late 1970s, I played a version of the game *Adventure*, implemented on an IBM 360 mainframe and accessed through an IBM 3270 display terminal. This experience happened to coincide with my own

first encounters with early versions of the constantly emerging concept of usability, these encounters occurring through a series of empirical studies of the problems of new users of office systems (e.g., Mack, Lewis, and Carroll 1983). Engaging in these two experiences at pretty much the same time was stimulating: the experience of *Adventure* seemed so different from that of using the office systems of the time, yet the user interfaces and user interactions seemed so similar.

Adventure and Office Systems

Both *Adventure* and the office systems seemed designed to obscure appropriate goals and effective methods for those goals. Users were frequently diverted from goals they were pursuing by system events and inadvertent side effects of their actions. Error messages and other system feedback was cryptic, difficult to decipher, and not clearly relevant. In the worst cases, messages directed users to do things that seemed wrong. Doing the “same thing” in a different circumstance often led to very different outcomes, making it difficult to form generalizations. Actions users took often had invisible consequences

for the system state, but this might not become evident until much later when the user no longer remembered what he or she had done. This, again, made it difficult to draw generalizations or learn causal connections at all.

For example, creating a document required the user to handle a parameter labeled “retention period” (among others). It turns out this parameter could have been defaulted, but new users did not know that, and some spent minutes pondering what should be specified. Analogously, in *Adventure* the virtual spelunker is wandering through a vast cave in search

of treasure when suddenly the system informs him or her: "The bird was unafraid when you entered, but as you approach, it becomes disturbed and you cannot catch it." Should it be caught? Is it a treasure? How is it related to the larger goals of the game?

Printing a document in a networked office system involves handshakes between devices. This often meant that a document access was locked until the print operation completed. But systems did not necessarily tell the users that; instead, they posted a message like "Document unavailable," suggesting to the user that something had gone

wrong, and that his or her document might have been lost. Of the many users I watched dealing with this predicament, none realized that printing *made* their document unavailable. Indeed, the message was so distressing that many forgot they had requested a print at all, and began working on the problem of recovering the lost document (often making further errors). Adventure also presented many obscure side effects. Thus, you could kill the bird, but doing so prevented progress in the game many hundreds of turns later in the game play (see Carroll 1982).

Transparent to Action; Conducive to Action

Adventure held my interest for many weeks. It was difficult, but tractable, and though it did frustrate me at times, I enjoyed the challenge. However, the office system users I was studying in my day job were not having a good time. One woman withdrew from our study so abruptly and decisively that she seemed to be running down the hall.

Two design archetypes are suggested by the contrast of Adventure and the early office systems. One is *transparency to action*: documentation and user interactions should be simple, clear, consistent, anchored in mental models and other task-related knowledge meaningful to users, and focused on user goals and effective methods for achieving them. Transparency to action is a generalization of task orientation (Carroll 1990); it has continued to be useful and important in designing today's user interfaces.

A complementary design archetype derives from recognizing that even the most careful design will confuse someone sometime. Interaction designs

therefore must also be *conducive to action*, providing feedback that provokes hypotheses and testing, attenuated error consequences, reversible commands (undo), and error states that are easy to recognize, diagnose, and recover from. I called this archetype "exploratory environment" (Carroll 1982).

Both Adventure and the office systems provided less-than-transparent user interfaces, but Adventure was more conducive to action, conveying that the user should explore the user interface, including reasoning and improvising, testing hypotheses, and making mistakes and learning from them. The office systems conveyed through their designs that the user should follow directions carefully, learn intended lessons thoroughly, and never make mistakes. In both contexts, people engaged in discovery learning and made mistakes, but in the case of the office systems, this was experienced as failure, and it evoked frustration and undermined confidence, whereas for Adventure, it was the main source of the fun.

We still cannot and may never be able to design interactive systems that are fully transparent to action—comprehended instantly, unambiguous in their affordances, and errorless. Thus, we must still

and may always have to design for the signature interactions of Adventure; that is, design for conduciveness to action.

Minimalist Design

The design archetypes of transparency to action and conduciveness to action articulate the intuition that the problem with early office systems was not one of providing too little guidance for users, but rather of providing too much of the wrong kind of guidance. They motivated the minimalist design model (Carroll 1990, 1998; see also van der Meij 2003; Obendorf 2009). As in classic minimalism of the early twentieth century, interactive systems must focus on what is essential, provocative, and motivating to people.

For example, we designed a series of interactive debugging environments called Viewmatcher, which presented a collection of coordinated views of Smalltalk code as it executed and allowed programmers to interact with the execution to analyze the code (Carroll and Rosson 1991). We provided minimal documentation coupled to specific execution states; most of what users gained through the Viewmatcher was discovered through self-initiated explorations. The Viewmatcher is an example of how the lessons of transparency to action and conduciveness to action can be applied to interactive systems that are game-like but not games.

Applying game archetypes in the design of interactive systems is not a matter of making work into a game, but rather a more nuanced effort of articulating critical abstractions and then re-instantiating them in new contexts. Minimalist design is an early, albeit modest example of gamification that was also quite successful, both in results of laboratory and field studies and in transforming information design practices in the 1980s and 1990s. The minimalist design model did not make information tasks into a game, but it was informed by a game design archetype.

More than any other kind of interactive system, games depend on providing high-quality interaction experiences. Indeed, user engagement must be immediate, intense, and sustained, or the game fails. We should identify design archetypes in games that we can then apply more broadly to the design of other interactive systems. The enormous value, competitiveness, and emphasis on innovation in game design ensures that lessons from game design for user interface design will keep coming.

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POSITION STATEMENT
A GAMEFUL MIND

Buster Benson

I was lucky to stumble upon the value of viewing the world through a gameful lens early in life. I can trace the shift in mindset back to when my family moved from Chino Hills to Irvine, California, and my parents decided to start paying me for my grades.

In second grade, before the move, before the money, I was getting C's and D's. From third grade on and through college, I hovered around straight A-minuses.

At the time, the wider shift in parenting philosophies was from negative to positive reinforcement. I remember seeing the books my parents were reading on the topic. Despite recent trends emphasizing the downside of positive reinforcement, it worked pretty well on me. The side effect, which was consistent with recent trends showcasing the downside of positive reinforcement, was that I no longer attended school for the official reasons (i.e., to absorb the knowledge they were imparting), but rather treated it as a means to a variety of other ends.

My favorite definition of a game, articulated by Bernard Suits, is “a voluntary attempt to overcome unnecessary obstacles.”

The part that I find lucky is that for some reason—and despite my parents' reward incentives—I didn't treat school as drudge work (where autonomy is low) or parental control as oppression (where autonomy

is also low), but rather as a game (where autonomy is high). And that has made all the difference.

The key to this lucky break in my early life might be due to the fact that I thought I had discovered, and could therefore exploit, a flaw in the rules set by my parents. The money for A-minuses was almost as much as an A, and yet the work required to get an A-minus was significantly lower. I found my wormhole!

This wormhole allowed me to adopt a mindset where both parents and teachers (people who typically have control over their children and students) were demoted to “unnecessary obstacles” that I could joyfully attempt to overcome. This feeling of autonomy flipped my gameful mind on.

School became a voluntary attempt to optimize effort spent on reward received, on my own terms. The part often overlooked from the classic game definition, which I believe is crucial to what I would call a “gameful mind,” is that the voluntary nature of the play allows one to focus on the style of play over the outcome. Even more important than winning the game is that I play it in a self-expressive way—as an example to others—proudly, even.

The wormhole, in a way, was my doorway into the game. I felt like I discovered it on my own, using my own ingenuity, and therefore I inherited power from

it as if it were a power-up, a cheat code that made a potentially oppressive environment into an empowering, autonomous, and voluntary one.

A game without voluntary play, without the autonomy to play with my own style, is not a game at all. It is the player who makes the game, not the other way around.

By high school, I was creating personal rules that helped me avoid actual A's (getting an A was considered wasteful of resources in my particular mindset). I tried skipping every fifth class. Not buying textbooks. Writing essays about the topics of my choosing rather than the assignments. I was using my trick to experiment within the system, testing it in different circumstances to see which other tricks it could unlock.

Rather than being punished for this blatant show of autonomous, gameful behavior, I found to my surprise that my parents and teachers appreciated my participation, even if it wasn't by the books. Probably because it was not by the books. They appreciated my self-expressive way of playing school and gaming the reward incentives for grades. As school became easier (aka I got better at my own game), I continued to dial up the frequency of stylistic tricks to make sure I balanced as closely as possible on the A-minus boundary. My game continued to evolve, grow more complex, more self-expressive, more enjoyable.

The surprising magic of the gameful mind is that it's enjoyable not only to the player, but also to the other people in the scope of the game.

Treating school as (paid) work might have led to some of these same strategies, but they would be executed in a repressed style. When I do something for someone else, non-autonomously, there is the fear of getting punished for standing out. Let's call it worker-bee mind. When I play with a gameful mind, part of the reason for playing is to stand out, to self-express. To be seen. To be heard. To win on my own terms.

Today, playing what would be thirty-third grade if such a thing existed outside of my gameful mind, my appreciation of autonomous, gameful play applied to real life has only increased. It has improved my play of school, of work, of relationships, of businesses, and of life in general.

In addition, I've used the gameful mindset to help enable others to stumble into the gameful mind themselves:

750words.com is a website that turns private journaling into a world where a gameful mind can thrive. HealthMonth.com is another website that allows you to create rules for yourself and encourages you to try to stick to them.

These aren't games. In fact, there are no games; only players. The best we can do is create environments where people can voluntarily choose to play games.

POSITION STATEMENT

GAMES AND THE WORLD

Frank Lantz

What is the relationship between games and the world? For me, this is the important question. Before we consider the *potential* relationship created by new applications of game systems to real-world situations, let's ask ourselves about the *existing* relationship between plain old games and the workaday world they are a part of. What is the relationship between Tetris and the world? Between chess and the world? Between basketball and the world? Between Minecraft and Street Fighter and Portal and the world?

I choose to answer this question in a way that I hope is simple, straightforward, and understandable, by saying that games are an aesthetic form. Like music, like stories, like poems, like dance, they are a human activity we engage in for its own sake, in which we sometimes find deep meaning and profound beauty, and sometimes find pleasant entertainment and compelling recreation, and sometimes find both, and often neither. This answer seems obvious and uncontroversial when you look at something like Portal. It seems pretty clear that, whatever else video games might be, we are comfortable thinking of most of them as pop cultural artifacts. They are clearly at home alongside rock records, comic books, movies, and television programs. Which, regardless of their individual or collective merit, means they are part of the aesthetic realm.

But let me quickly admit that this answer, straightforward as it may be, is a classic case of question begging. Because, after all, what exactly do we know about aesthetic forms? What are these things? What types of experiences do they produce? Where do we go, when we sit in the dark watching actors kiss, when we curl up in bed reassembling words into imaginary places, when a percolating polyrhythm moves our feet or a poignant melody warms our throat? Oh, sure, there are plenty of aesthetic theories, plenty of ways to "explain" these experiences, by referring to evolution's influence on behavior, or the pure spirit of sublime consciousness, or neural networks, or networks of power, the means of production and the politics of pleasure. But let's be honest, if there's one thing you and I both know, it's that we don't know where we go when we do these things, and we don't want to know. Sometimes a sorrowful song makes us weep, but the emotion we feel isn't exactly sadness and isn't exactly not sadness, and this feeling is complicated and mysterious and beautiful. And we don't want or need an explanation of this feeling, and we're not going to get one. Instead, we are simply grateful that it happens, grateful for this complicated, beautiful, mysterious aspect of life.

And that is, maybe, the one thing we can say for certain about aesthetic experiences, about their

relationship to the world, that they resist explanation, that they are hard to pin down, not just complex and ambiguous but *irreducibly* complex and ambiguous, that they exist outside our ordinary frameworks of logic and purpose, cause and effect, reason and explanation. We *need* to have this outside, and aesthetic experiences serve that need. But wait, even that implies an explanation that isn't there, even that is an attempt to rein them back into the logic of purpose and reason, explain how and why they work, and they will always continually elude this attempt. Better to say they occupy a position, relative to our explanations, that is analogous to the truths that elude capture in formal systems. Patsy Cline sits outside of heartbreak looking in, the same way that a Gödelian assertion hovers above a formal logical system that can never capture it. Inexplicably true.

So if this is the relationship that aesthetic experiences have with the world, then this is also the case for games. Tetris sits outside our desire to arrange and complete, looking in. Portal hovers above our compulsion to solve problems and escape confinement. And this tension, or dynamic, or dialogue, or dialectic, is always there, to some degree or another, between every game and the world they are a part of, and apart from.

So what does this mean for attempts to harness the power of games for external purposes? First of all, it's clearly possible. In the same way that people write songs to teach the alphabet, or take photographs that make us want to smoke, people can create games that teach us math, or trick us into washing the dishes, or persuade us to be less cruel to animals, or improve our workplace efficiency. That such games can and do exist is obvious. I am no purist, no idealist, the gap between aesthetic experiences and the world is messy, permeable. But under-

standing that there *is* such a gap helps us sort through this mess and see it more clearly.

For instance, it helps us better understand the flow of concepts between games and the world. You often hear people talk about taking concepts from games and applying them to real-world situations—rules, goals, winning and losing, levels, rewards, and so forth. But are these really *game* concepts? Each of these things already exists in the “real world” and always has, we certainly don't need games to see all of them at work in our social relations, our institutions, and our workplaces. What games do is take these concepts and abstract them, stylize them, isolate them, arrange them, intensify them in a way that makes them newly visible to us. This is aesthetics in action. Understood in this way, we can see how applying game concepts to real-world situations is a doubling back, taking concepts that started in the world, transforming them through games, and then reapplying them to the world from which they originated.

There are many different ways to think about this doubling back. What happens when concepts are transformed through aesthetics into abstracted, stylized versions of themselves, then reintroduced into an everyday context? Do they inject some of the strangeness of the aesthetic realm into the regular world or do they lose their magic, reverting back to the mundane?

For my part, I have created many games that intentionally blur the distinction between the real and virtual, between the game and ordinary life, including some that were designed to achieve real-world goals. I have always approached these projects with the same idea—not to harness the power of games to accomplish something in the real world, but the opposite, to harness the power of

the real world to create a better, more interesting game. Sometimes this means using pervasive technology to highlight the strangeness of our contemporary world, the hybrid half-real spaces we move through in our daily lives, the new ways in which objects and information intermingle, creating new surfaces on which to play. And sometimes this means using the idea of a real-world goal as an ingredient in an aesthetic experience (as opposed to using an aesthetic experience to accomplish a real-world goal); in other words, doubling back

across the gap a second time, smuggling the concepts of reason, purpose, challenge, and goal over the border and back again and then back across, nervous, sweating, clutching a suitcase full of contraband whose origin is no longer clear. Exporting indigenous vegetation? Importing raw materials to be processed? Exporting processed goods for sale? Importing revolutionary propaganda? Exporting weapons? Importing medicine? Drugs? Pornography? Artworks? Explosives?

Games.