

A THEORY OF FUN

for Game Design

By RAPH KOSTER

A Theory of Fun for Game Design

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Chapter Five

WHAT GAMES AREN'T

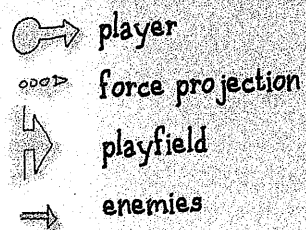
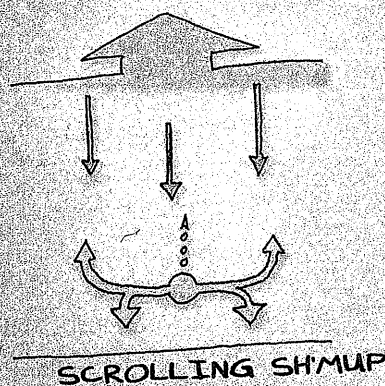
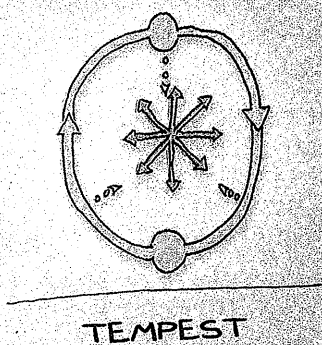
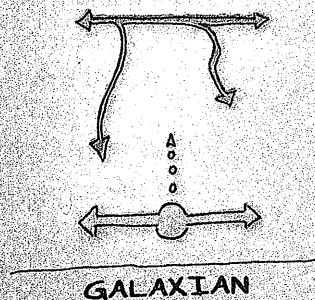
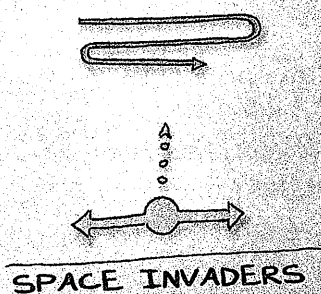
Until now, I've been discussing formal game design—abstract simulations. I've also been pretty loose with the term “game,” conflating game *systems* with games. But we rarely see truly abstract simulations in games. People tend to dress up game systems with some fiction. Designers put artwork on them that is suggestive of some real-world context. Take checkers for example—abstractly, it's a board game about entrapment and forced action, played on a diamond-shaped grid. When we say “king me”^{*} in checkers, we're adding a subtle bit of fiction to the game; suddenly it has acquired feudal overtones and a medieval context. Usually, the pieces have a crown embossed on them.

This is similar to word problems in math class. The fiction serves two purposes: it trains you to see past it to the underlying math problem, and it also trains you to recognize real-world situations where that math problem might be lurking.

Games in general tend to be like word problems. You won't find many games that are pure unclothed abstractions.^{*} Most games have more in common with chess or checkers—they provide some level of misdirection. Usually there are metaphors for what is going on in the game.

While metaphors are fun to play with, players can basically ignore them. The name of the unique checker piece that has made it to the other side is irrelevant, mathematically speaking. We could call the regular pieces chickens and the crowned ones wolves and the game would not change one whit.

Games, by the very nature of what they teach, push towards this sort of understanding. Since they are about teaching underlying patterns, they train their players to ignore the fiction that wraps the patterns.



Games are largely about getting people to see past the variations and look instead at the underlying patterns. Because of this, gamers are very good at seeing past fiction.

Back in 1976, a company called Exidy scored a first in video game history: its game *Deathrace** was taken off the market because of public concerns about the game's violent nature. *Deathrace* was loosely based on a movie called *Deathrace 2000*.* The premise involved driving a car to run over pedestrians for points.

Mechanically, *Deathrace* was the same as any other game that involved catching objects moving around the screen. If you looked at this game today, with its crude pixelated graphics and its tiny iconic people, you wouldn't be particularly shocked. After all, countless other gore-fests have come along that make the game look quaint.

I don't think debates about the suitability of violence in the media will disappear. Much evidence shows that media have some effect on how we act.* If media didn't have an effect, we wouldn't spend so much effort on using them as teaching tools. But evidence also shows that media aren't mind-control devices (of course they aren't, or else we'd all behave like the people in the children's stories we read in elementary school).

Gamers, however, have always viewed this issue with some perplexity. When they defend their beloved games, they use one of the most self-defeating rallying cries in history: "It's only a game!"

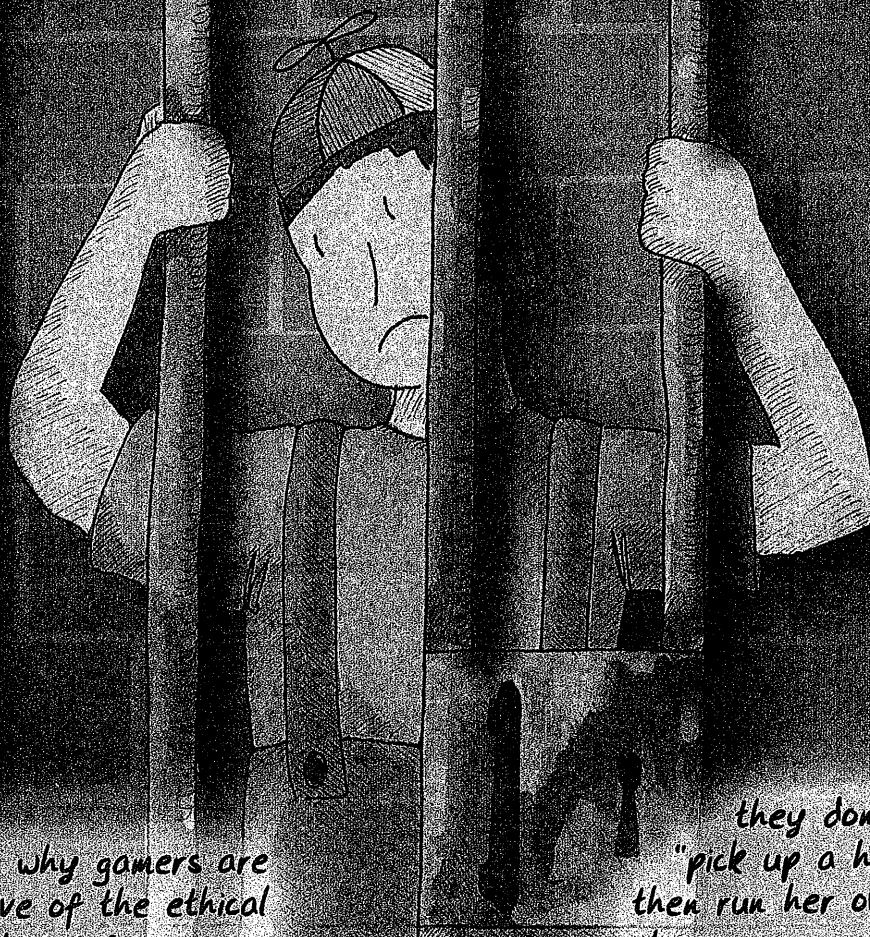
In the wake of school shootings* and ex-military people decrying first-person shooters as "murder simulators,"* this argument doesn't carry a lot of weight. Academics who disagree with the portrayal of games as damaging to children tend to muster learned arguments about privileged spaces and magic circles. Much of the public dismisses these arguments as coming from an ivory tower.

But there's a very good reason why the gamers are incredulous.

Handwritten note in the top left corner: *Run*

WHAT'S HE IN FOR?

GRAND THEFT AUTO, ASSAULT
AND BATTERY, VEHICULAR
HOMICIDE, SOLICITATION,
AND LITTERING.



*This is why gamers are
dismissive of the ethical
implications of games --*

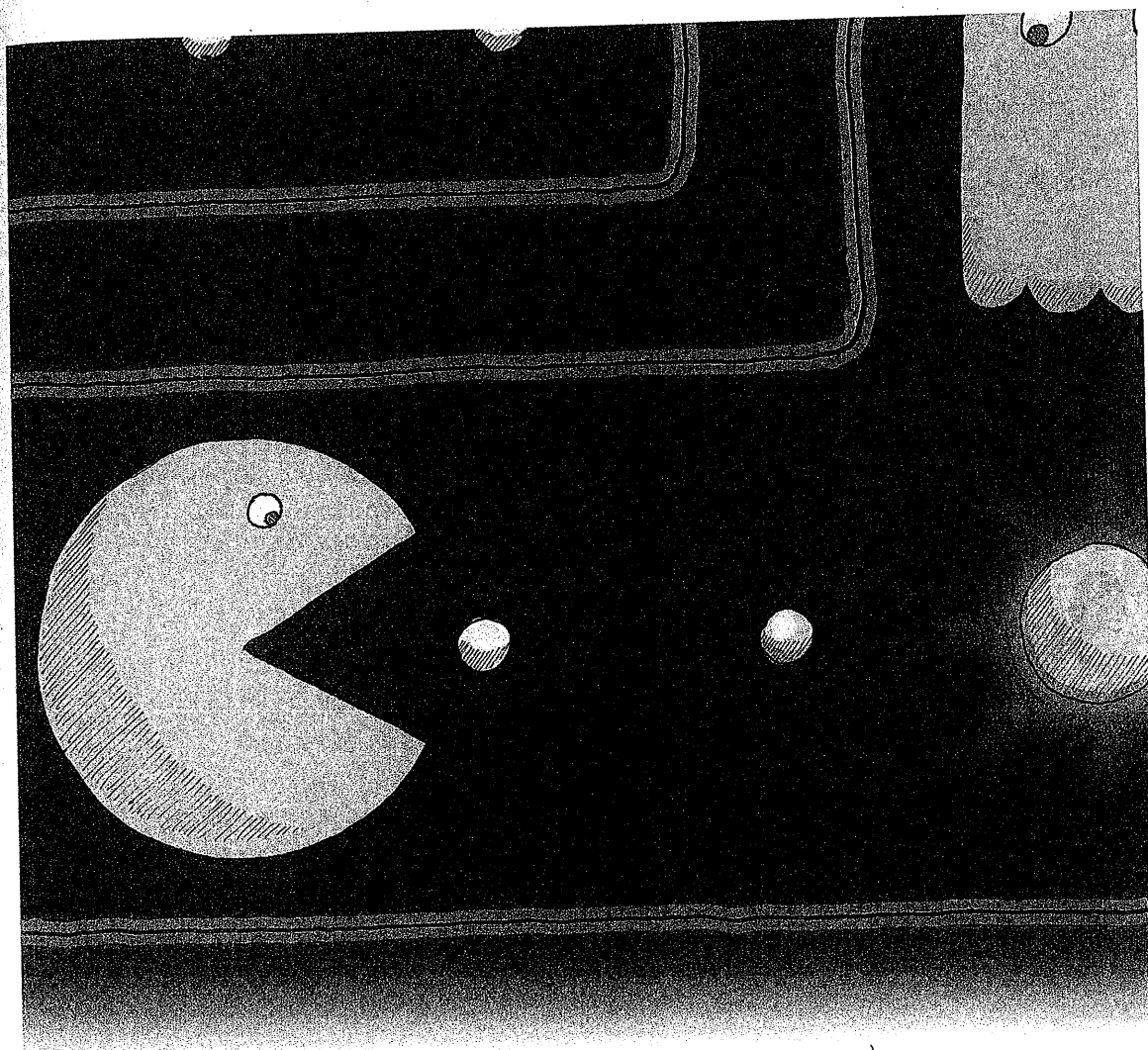
*they don't see
"pick up a hooker,
then run her over to
get your money back."*

Remember, game systems train us to see underlying mathematical patterns. The fact that I can describe *Deathrace* as being a game about picking up objects on a two-dimensional playing field is evidence that its "dressing" is largely irrelevant to what the game is about at its core. As you get more into a game, you'll most likely cut to the chase and examine the true underpinnings of the game, just as a music aficionado can cut past the lyrical content of different types of Latin music and determine whether a given song is a *cumbia** or a *marinera** or a *salsa*.

Running over pedestrians, killing people, fighting terrorists, and eating dots while running from ghosts are all just stage settings, convenient metaphors for what a game is actually teaching. *Deathrace* does not teach you to run over pedestrians any more than *Pac-Man* teaches you to eat dots and be scared of ghosts.

None of this is to minimize the fact that *Deathrace* does involve running over pedestrians and squishing them into little tombstone icons. That's there, for sure, and it's kind of reprehensible. It's not a great setting or staging for the game, but it's also not what the game is really about.

Learning to see that division is important to our understanding of games, and I'll touch on it at greater length later. For now, suffice it to say that the part of games that is *least* understood is the formal abstract system portion of it, the mathematical part of it, the chunky part of it. Attacks on other aspects of games are likely to miss the key point—at their core, games need to develop this formal aspect of themselves in order to improve.



They see a power-up.

Alas, that isn't what we tend to focus on.

The most common route these days for developing games involves grafting a story onto them. But most video game developers take a (usually mediocre) story and put little game obstacles all through it. It's as if we are requiring the player to solve a crossword puzzle in order to turn the page to get more of the novel. There is also a current of game design which unapologetically puts story first.* These are often powerful emotional experiences with relatively shallow game mechanics. This isn't a flaw—it's a deliberate design choice—but it doesn't speak to the kind of learning we get from game systems.

By and large, people don't play with game systems because of the stories. The stories that wrap the systems are usually side dishes for the brain. For one thing, it has been rare to see a game story written by an actual writer.* As a result, they are usually around the high-school level of literary sophistication at best.

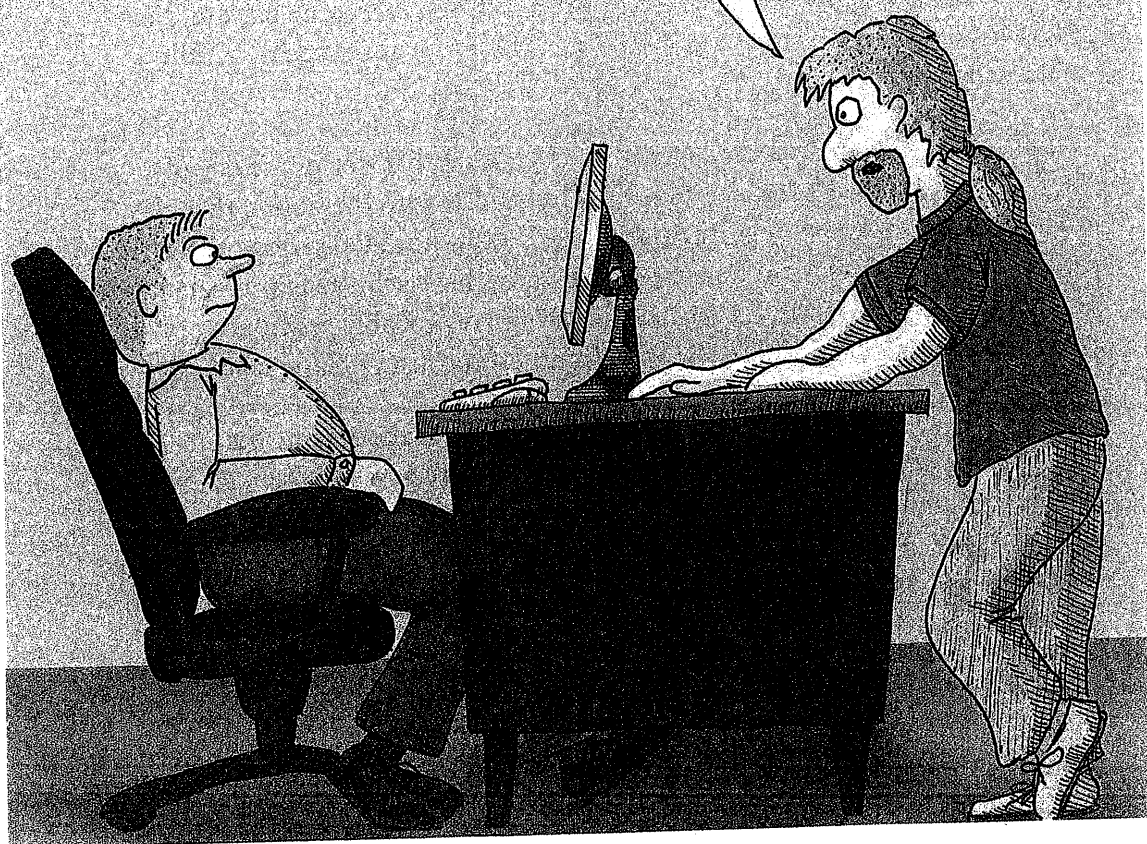
For another, since the games are generally about power, control, and those other primitive things, the stories tend to be as well. This means they tend to be power fantasies. That's generally considered a pretty juvenile sort of story.

The stories in many video games serve the same purpose as calling the über-checker a "king." It adds interesting shading to the game but the game at its core is unchanged. Often the story elements are reduced to being positive feedback to the player, to tell her that she is doing well. Remember—my background is as a writer, so this actually pisses me off. Story deserves better treatment than that.

(c) 2004
X13/4

Story, setting, and backplot in games are nothing more than an attempt to give a side dish to the brain while it completes its challenges -- sometimes the hope is that it makes up for an otherwise unremarkable game.

SURE, IT'S ANOTHER
FIRST-PERSON SHOOTER,
BUT WITH THE MOVIE
LICENSE, I AM SURE IT'LL
BE A HIT...



Games are not stories (though players can *create* stories from them).^{*} It is interesting to make the comparison, though:

- Games tend to be experiential teaching. Stories teach vicariously.
- Games are good at objectification. Stories are good at empathy.
- Games tend to quantize, reduce, and classify. Stories tend to blur, deepen, and make subtle distinctions.
- Games are external—they are about people's actions. Stories (good ones, anyway) are internal—they are about people's emotions and thoughts.
- Games are generators of player narratives. Stories provide a narrative.

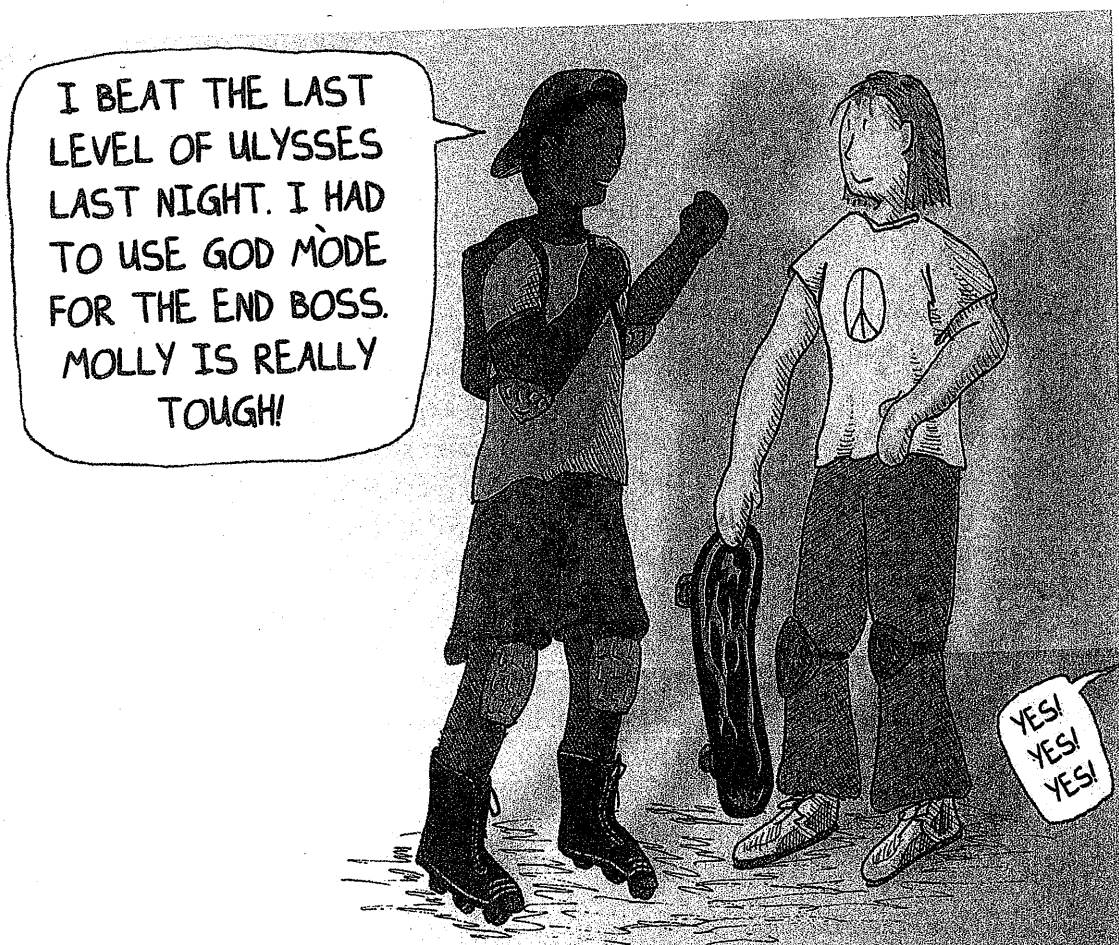
In both cases, when stories and games are good, you can come back to them repeatedly and keep learning something new. But we never speak of fully mastering a good story.

I don't think anyone would quarrel with the notion that stories are one of humanity's chief teaching tools. One might quarrel with the notion that play is the other and that mere lecturing runs a distant third. I also don't think that many would quarrel with the notion that stories have achieved far greater artistic heights than games have, despite the fact that play probably *predates* story (after all, even animals play, whereas stories require some form of language).

Are stories superior? We often speak of wanting to make a game that makes players cry. The classic example is the text adventure game *Planetfall*,^{*} where Floyd the robot sacrifices himself for you. But it happens outside of player control, so it isn't a challenge to overcome. It's grafted on, not part of the game. What does it say about games that the peak emotional moment usually cited actually involves *cheating*, rather than using game systems?

Games do better at emotions that relate to mastery. Stories can provide these too, however. Getting these sorts of emotional effects out of games may be the wrong approach—perhaps a better question is whether stories can be fun in the way games can.

(c) 2004
KCB



Stories are a powerful teaching tool in their own right, but games are not stories.

When we speak of enjoyment, we actually mean a constellation of different feelings. Having a nice dinner out can be fun. Riding a roller coaster can be fun. Trying on new clothes can be fun. Winning at table tennis can be fun. Watching your hated high school rival trip and fall in a puddle of mud can be fun. Lumping all of these under "fun" is a rather horribly vague use of the term.

Different people have classified this differently. Game designer Marc LeBlanc* has defined eight types of fun: sense-pleasure, make-believe, drama, obstacle, social framework, discovery, self-discovery and expression, and surrender. Paul Ekman,* a researcher on emotions and facial expressions, has identified literally dozens of different emotions—it's interesting to see how many of them only exist in one language but not in others. Nicole Lazzaro* did some studies watching people play games, and she arrived at four clusters of emotion represented by the facial expressions of the players: hard fun, easy fun, altered states, and the people factor.

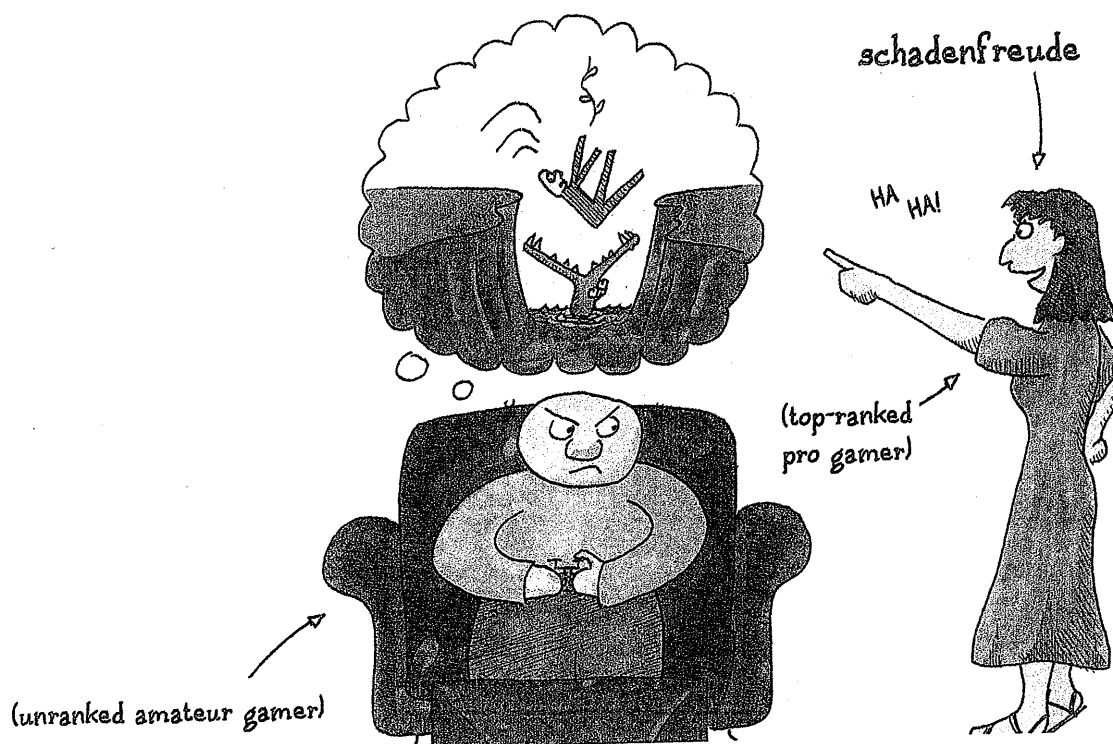
My personal breakdown would look a lot like Lazzaro's:

- **Fun** is the act of mastering a problem mentally.
- **Aesthetic appreciation** isn't always fun, but it's certainly enjoyable.
- **Visceral reactions** are generally physical in nature and relate to physical mastery of a problem.
- **Social status signals** of various sorts are intrinsic to our self-image and our standing in a community.

All of these things make us feel good when we're successful at them, but lumping them all together as "fun" just renders the word meaningless. So throughout this book, when I have referred to "fun," I've meant only the first one: mentally mastering problems. Often, the problems mastered are aesthetic, physical, or social, so fun can appear in any of those settings. That's because all of these are feedback mechanisms the brain gives us for successfully exercising survival tactics.

(c) 2004
Xmas

Of course, learning patterns is not the only thing that is entertaining. Humans enjoy primate dominance games, for example. You could argue that jockeying for status is also a challenge, of course.



Physical challenges alone aren't fun. The feeling of triumph when you break a personal record is. Physical challenges can be approached as a game, the game of your own body. Endurance running or lifting weights can be immensely satisfying, but the high you get from vigorous exercise is not the same high as when you win a well-fought game of soccer thanks to your teamwork.*

Similarly, autonomic responses aren't fun in and of themselves. You have them developed already, so the brain only rewards you for doing them in the context of a mental challenge. You don't get a high from just typing, you get it from typing while pondering what to say, or from typing during a typing game.

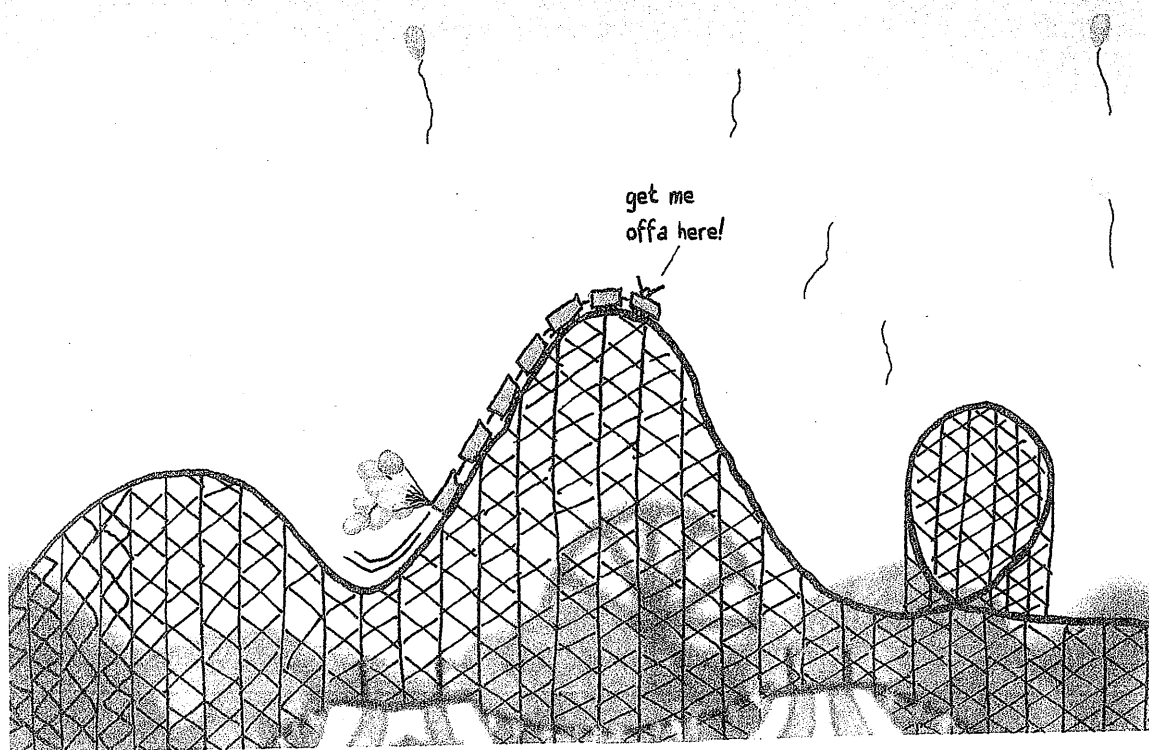
Social interactions of all sorts are often enjoyable as well. The constant maneuvering for social status that all humans engage in is a cognitive exercise, and therefore essentially a game. There is a constellation of positive emotions surrounding interpersonal interactions. Almost all of them are signals of either pushing someone else down, or pushing yourself up, on the social ladder. Some of the most notable include:

- **Schadenfreude**,* the gloating feeling you get when a rival fails at something. This is, in essence, a put down.
- **Fiero**, the expression of triumph when you have achieved a significant task (pumping your fist, for example). This is a signal to others that you are valuable.
- **Naches**, the feeling you get when someone you mentor succeeds. This is a clear feedback mechanism for tribal continuance.
- **Kvell**, the emotion you feel when bragging about someone you mentor. This is also a signal that you are valuable.
- **Social behaviors**, such as signals of intimacy, often representing relative social status.* One example is feeding other people, which is a very important social signal in human societies.

A lot of these feel good, but they aren't necessarily "fun."

(c) 1994
Kirsten

We also enjoy visceral experiences of various sorts --
these are often challenges to ourselves.



Aesthetic appreciation is the most interesting form of enjoyment to me. Science fiction writers call it "sensawunda."^{*} It's awe, it's mystery, it's harmony. I call it delight. Aesthetic appreciation, like fun, is about patterns. The difference is that aesthetics is about *recognizing* patterns, not learning new ones.

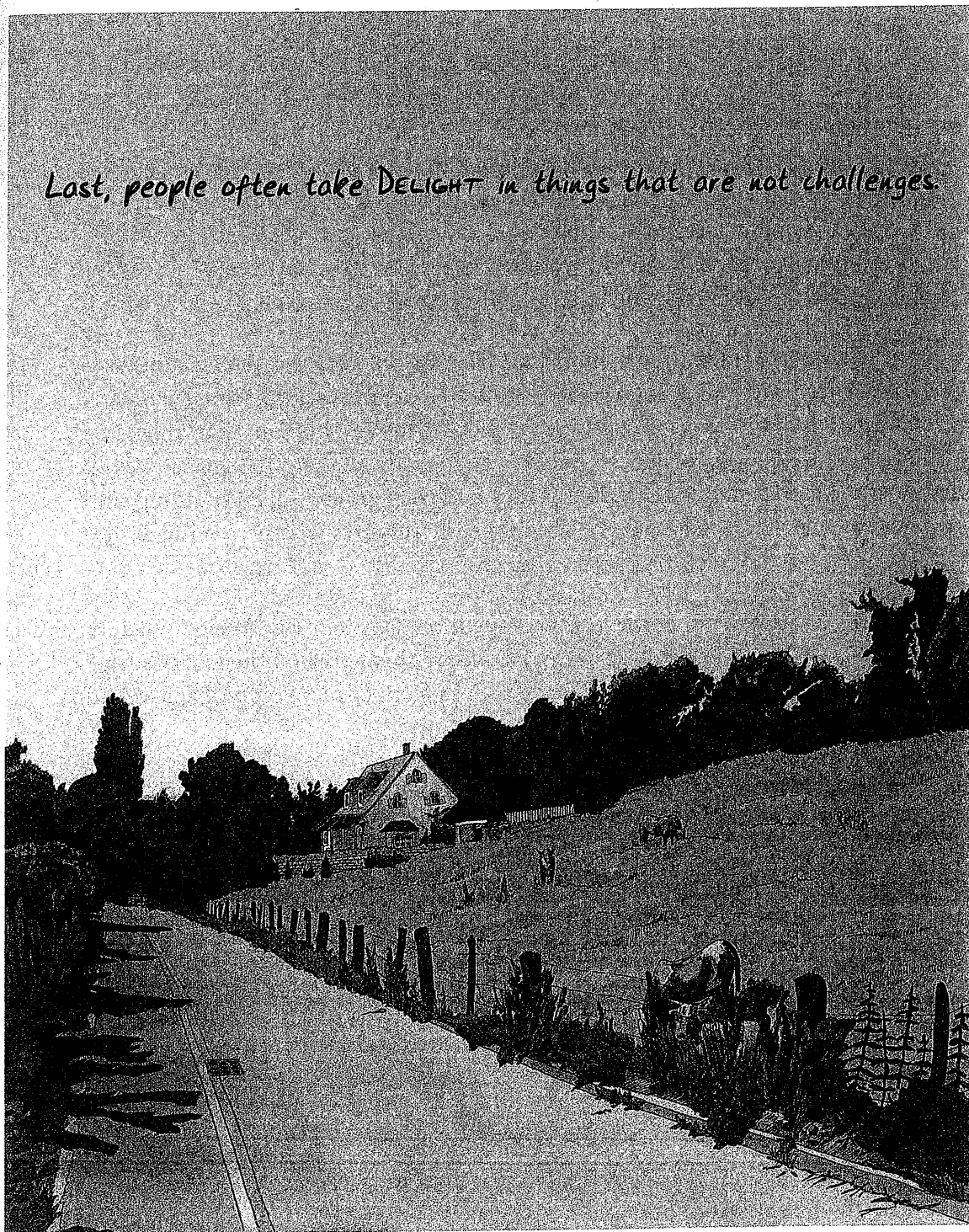
Delight strikes when we recognize patterns but are surprised by them. It's the moment at the end of *Planet of the Apes* when we see the Statue of Liberty. It's the thrill at the end of the mystery novel when everything falls into place. It's looking at the Mona Lisa and seeing that smile hovering at the edge of known expressions, and matching it to our hypothesis of what she's thinking. It's seeing a beautiful landscape and thinking all is right in the world.

Why does a beautiful landscape make us feel that way? Because it meets our expectations and *exceeds* them. We find things beautiful when they are very close to our idealized image of what they should be, but with an additional surprising wrinkle. A perfectly closed-off plot, with just a couple of loose threads. A picture of a farmhouse, but the paint is peeling. Music that comes back to the tonic note and then drops a whole step further to end on an unresolved minor seventh. These send us chasing off after new patterns.

Beauty is found in the tension between our expectation and the reality. It is *only* found in settings of extreme order. Nature is full of extremely ordered things. The flowerbed bursting its boundaries is expressing the order of growth, the order of how living things stretch beyond their boundaries, even as it is in tension with the order of the well-manicured walkway.

Delight, unfortunately, doesn't last. It's like the smile from a beautiful stranger in a stairwell—it's fleeting. It cannot be otherwise—recognition is not an extended process.

You can regain delight by staying away from the object that caused it previously, then returning. You'll get that recognition again. But it's not quite what I would call fun. It's something else—our brains rewarding us for having learned well. It is the epilogue to the story. The story itself is the fun of learning.



Fun, as I define it, is the feedback the brain gives us when we are absorbing patterns for learning purposes. Consider the basketball team that says, "We went out there to have fun tonight," versus the one that says, "We went out there to win." The latter team is approaching the game as no longer being practice. Fun is primarily about practicing and learning, not about exercising mastery. In fact, the fun often starts before the action does; anticipating a solution can be as exciting as applying one.* Exercising mastery will give us some other feeling, because we are doing it *for a reason*, such as status enhancement or survival.

The lesson here is that *fun is contextual*. The reasons why we are engaging in an activity matter a lot. Bernard Suits called this "approaching things with a lusory attitude,"* which in part means putting the activity into that "magic circle" of lack of consequence. School is not usually all that fun because we take it seriously—it's not practice, it's for real, and your grades, social standing, and clothing determine whether you are in the in-crowd, or whether you sit at the table close to the cafeteria kitchen.

It's very telling that when we lose a competition, we often say, "Well, I was just doing it for fun." The implication is that we are shrugging off the loss of social status inherent in a loss. Since it was merely a form of practice, perhaps we didn't put forth our best effort.

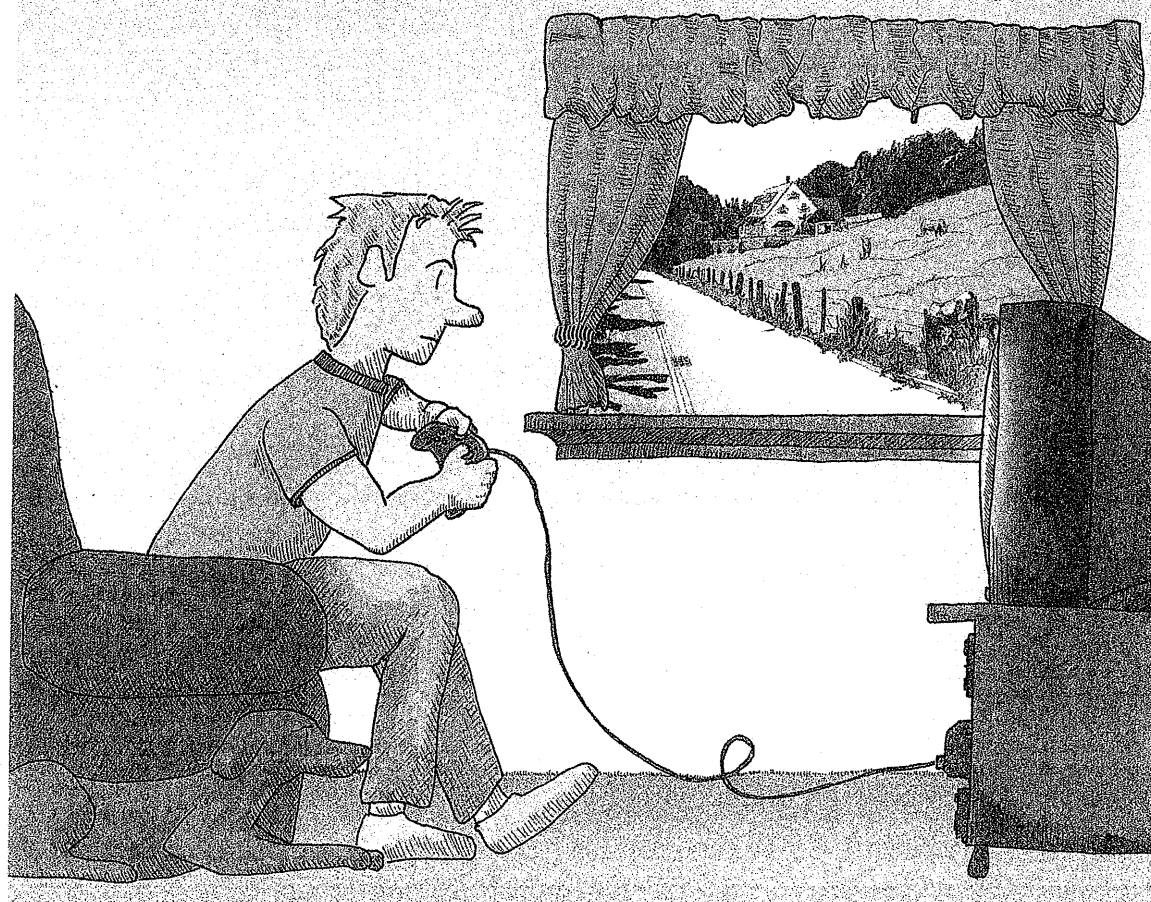
We get positive feedback for climbing the social ladder. We're just tribal monkeys throwing feces at each other in order to own the top of the tree. But notice some of the subtleties there: climbing it while helping others (naches and kvell). Climbing it while pushing the boundaries of our knowledge (fun). Climbing it while strengthening our social networks, building communities and families that work together to improve everyone's lot (grooming, pairing, and feeding others).

As monkeys go, that's pretty darn good. In the general run of animals, it's amazing. It's a lot better than being a shark that only gets feedback for eating.

I think there's a good case to be made that having fun is a key evolutionary advantage right next to opposable thumbs in terms of importance. Without that little chemical twist in our brains that makes us enjoy learning new things, we might be more like the sharks and ants of the world.

(c) 2000
Kinsler

But delight tends to wear thin very quickly.
Real fun comes from challenges that are
always at the margin of our ability.



So how does it feel? Well, the moment a lot of players like to cite is "being in the zone." If you get academic about it, you might reference Csikszentmihalyi's concept of "flow."^{*} This is the state you enter when you are experiencing absolute concentration on a task. When you're in absolute control, the challenges that come at you are met precisely by your skills.

Flow doesn't happen very often, but when it does it feels pretty darn wonderful. The problem is that precisely matching challenges to capability is incredibly hard. For one thing, the brain is churning away, and might make a conceptual breakthrough at any moment, rendering the rest of the challenge trivial. For another, an automated system isn't likely to be able to assess the player's shifting skill very well.

As we succeed in mastering patterns thrown at us, the brain gives us little jolts of pleasure. But if the flow of new patterns slows, then we won't get the jolts, and we'll start to feel boredom. If the flow of new patterns increases beyond our ability to resolve them, we won't get the jolts either because we're not making progress.

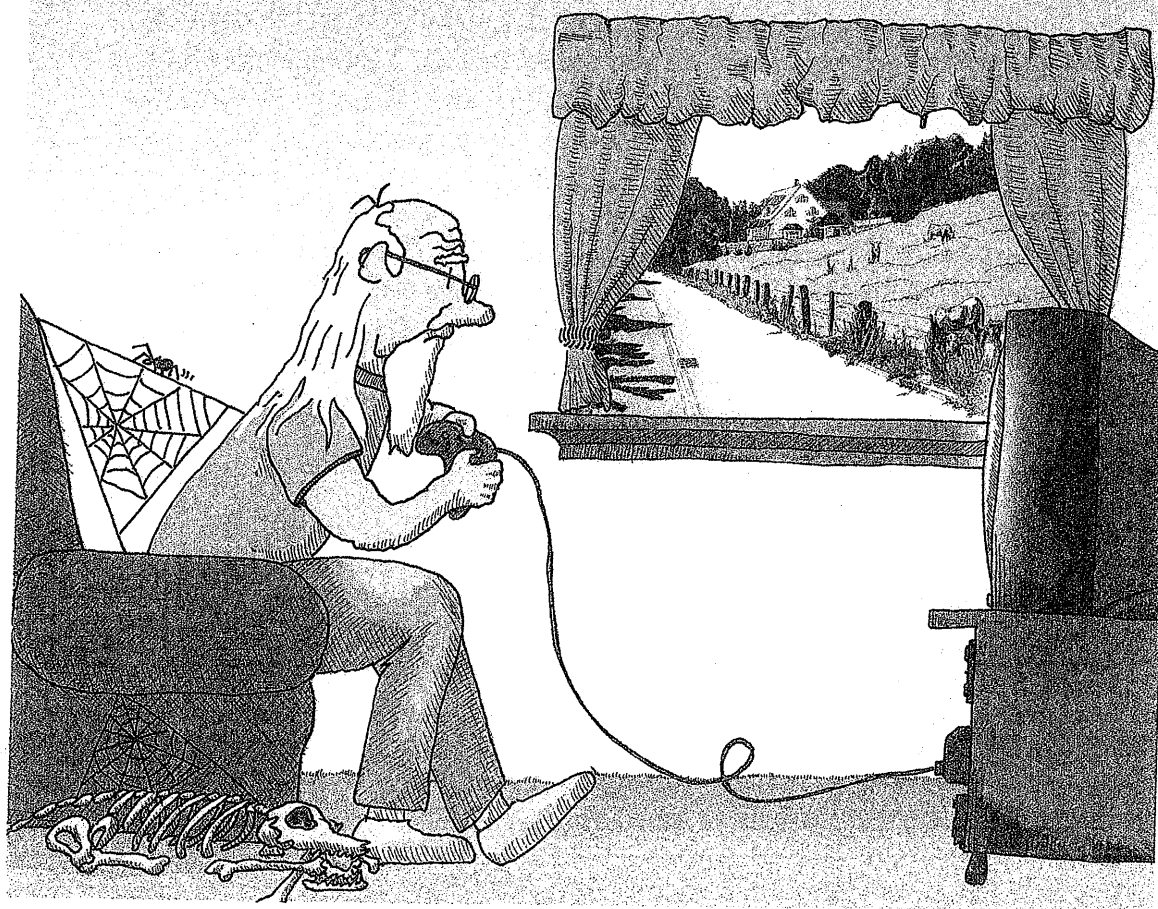
The absence of flow doesn't preclude fun—it just means that instead of a steady drip-drip-drip of endorphins, you're getting occasional bits. And in fact, there can be flow that isn't fun; meditation induces similar brain waves, for example. Instead, fun tends to hit when bumping up at the top edge of flow.

A more fruitful reference might be the educational concept of the "zone of proximal development."^{*} This is the idea that a given learner has things he can do without help, things he just cannot do, and things he can do with some help. Fun tends to come in this last one, and the help is provided by the game system.

So fun isn't flow. You can find flow in countless activities, but they aren't all fun. Most of the cases where we typically cite flow relate to exercising mastery, not learning.

(c) 2004
Kiss

When the balance is really perfect, people often zone out.



Fun isn't the only reason to play a game with a system, of course:

- **Practice.** Practice is a very common thing to do with games. Studies have shown that mastering a field can take many hours of what is termed "deliberate practice," where the person practicing drills herself on challenging tasks, over and over.* It is very hard work. In some sense games are "deliberate practice machines" that make this work easier.
- **Meditation.** Although meditation is poorly studied in the sciences, there are common elements that recur in various practices around the world: using a focus object of some sort, such as a mantra or breathing pattern, and engaging in repetitive behavior. Many games work well for this.
- **Storytelling.** Some games come with stories, and of course, a player can always construct a narrative of events after the fact. A given player might very well be more interested in these stories than in the game systems which accompany them. We can debate whether this is "gamelike" or not in some dry and technical sense, but why bother?
- **Comfort.** The act of playing in a space which is fully understood, where one can exercise mastery with little risk, can provide a welcome break from a challenging life. Games offer this type of escape, much as a familiar well-loved book or film does when experienced over and over.

There is nothing wrong with using a game or a game system for these purposes! But many other things would also serve. So these qualities do not speak to what makes games unique and special.

To recap the preceding pages: Games aren't stories. Games aren't about beauty or delight. Games aren't about jockeying for social status. They stand, in their own right, as something incredibly valuable. Fun is about learning in a context where there is no pressure from consequence, and that is why games matter.

12/2/2014
Xiao

