!! Mtg 3 2 pm Tears Later 65 Raph Koster content? 2757. -196,0 Doode

A Theory of Fun started out as a talk at the very first Austin Game Conference.

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A Theory of Fun started out as a talk at the very first Austin Game Conference.



A Theory of Fun started out as a talk at the very first Austin Game Conference.



A Theory of Fun started out as a talk at the very first Austin Game Conference.

Ahem.

Excuse me.

A Theory of Fun started out as a talk at the very first Austin Game Conference.

When I said it first, it was "fun is the emotional response to learning."



A Theory of Fun started out as a talk at the very first Austin Game Conference.

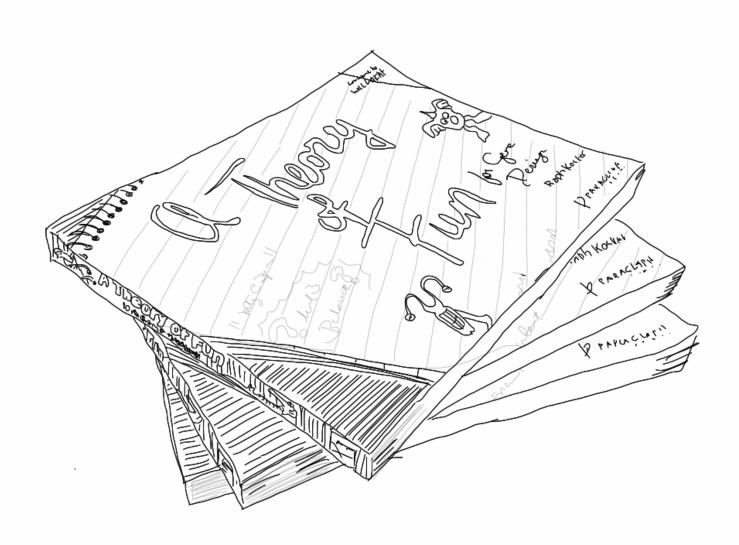
Pithier. Subtler. I daresay, more accurate. And I am sure you want to quote correctly.

A Theory of Fun started out as a talk at the very first Austin Game Conference.

That's all.
Pray, continue.



The talk led to a book,



The talk led to a book, which fell in and out of print multiple times,



The talk led to a book,
which fell in and out of print multiple times,
and had lots of amateurish illustrations.

I'M NEVER EVER EVER NEVER PLAYING WITH YOU FOR EVER INFINITY, CHEATER!

NYAAH!

6073 TO 1!

"Fun in games arises out of mastery. It arises out of comprehension. It is the act of solving puzzles that makes games fun. With games, learning is the drug."

... And it has sold over 30,000 copies and been translated into Japanese, Chinese, and Korean.



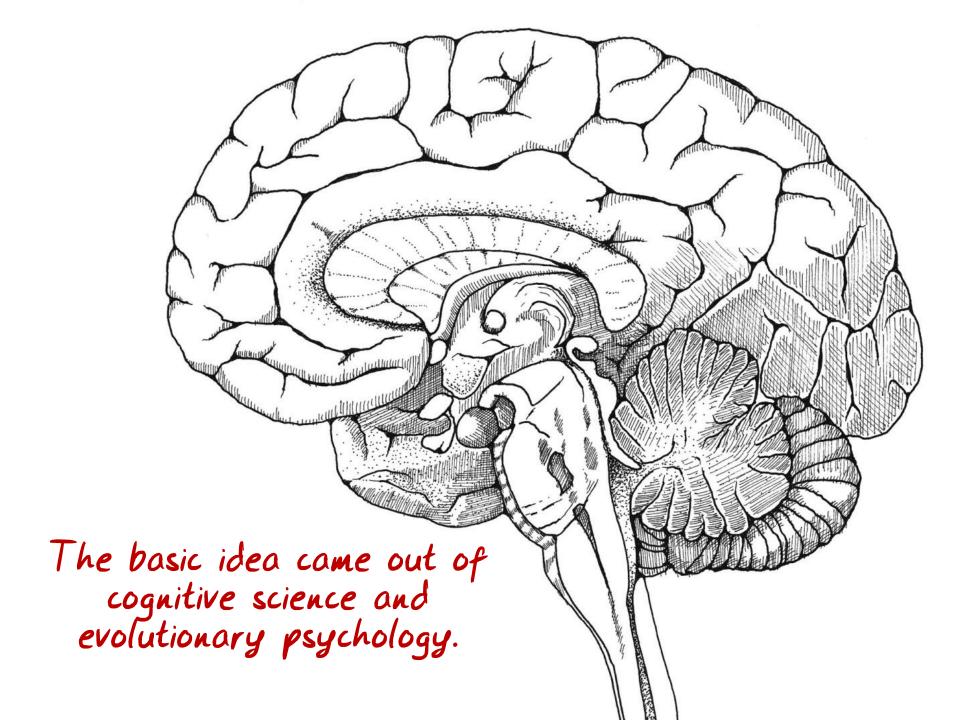
Dave Rickey

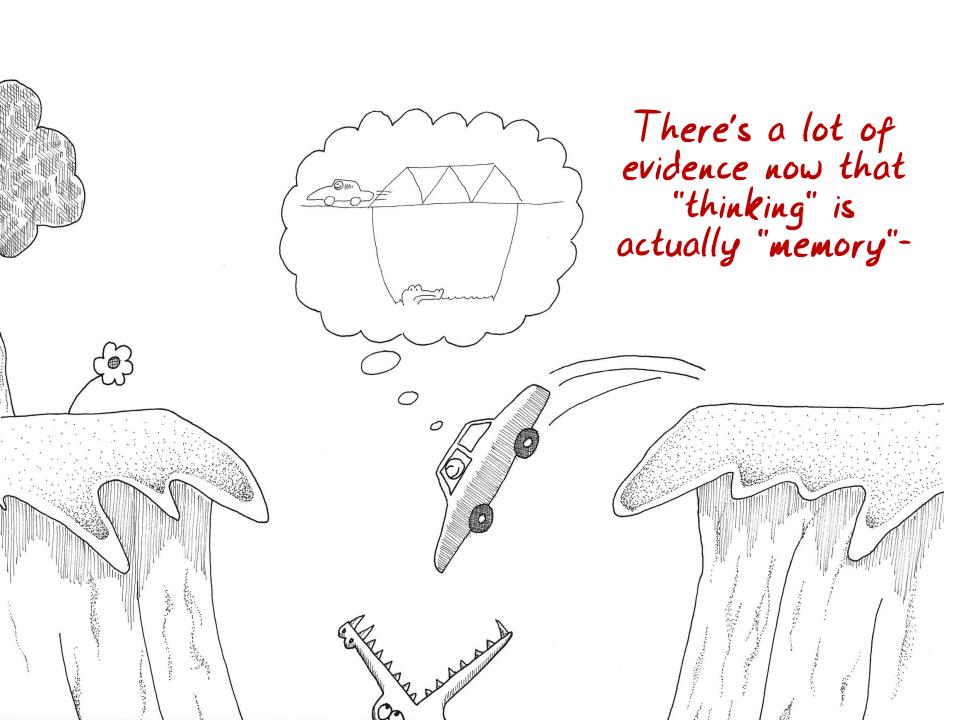
... Well, and I had been told (not by them!) that my games weren't actually fun.

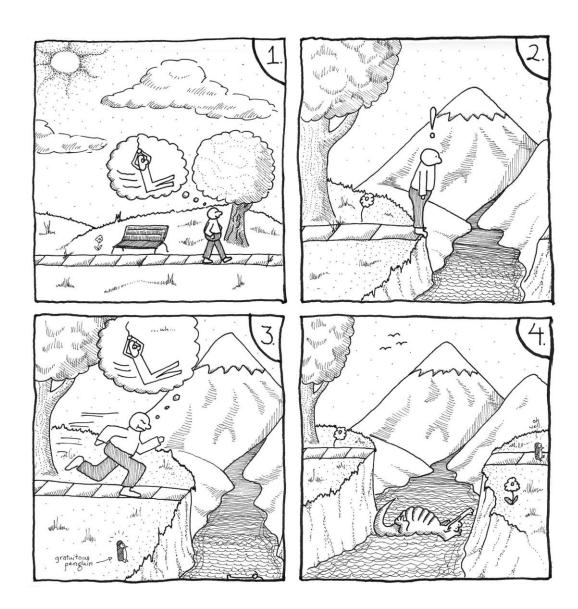
I did Theory of Fun because I had been chatting with some friends. . .

Noah Falstein



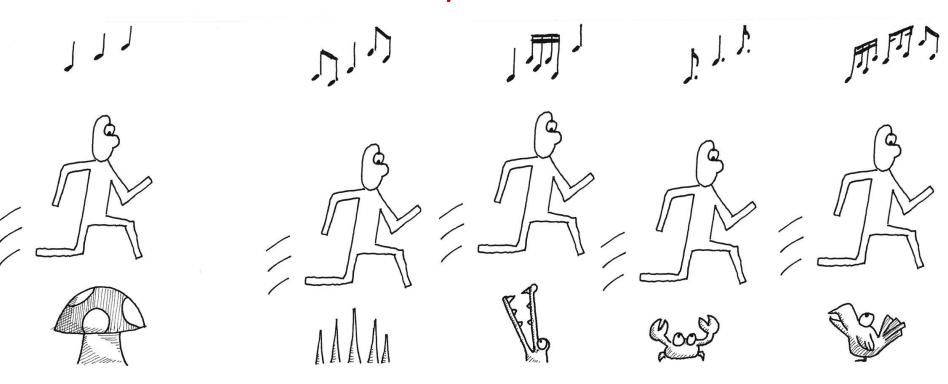


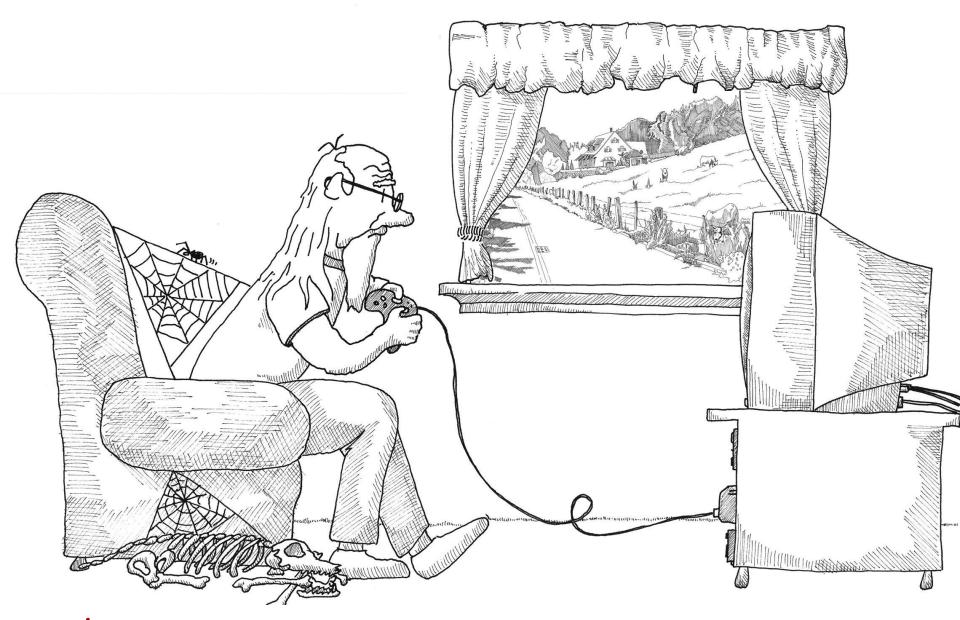




We learn patterns and apply them to reality, often unconsciously.

The idea was, games are systems built to help us learn patterns.

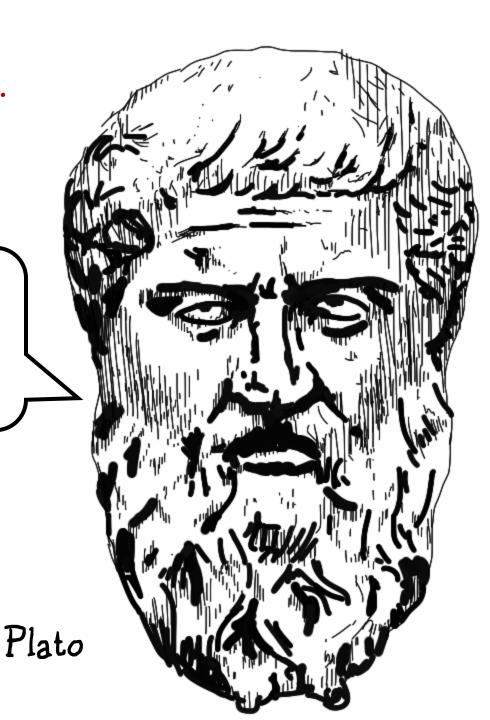




And fun is a neurochemical reward to encourage us to keep trying.

This was not a new idea.

The most effective kind of education is that a child should play amongst lovely things.

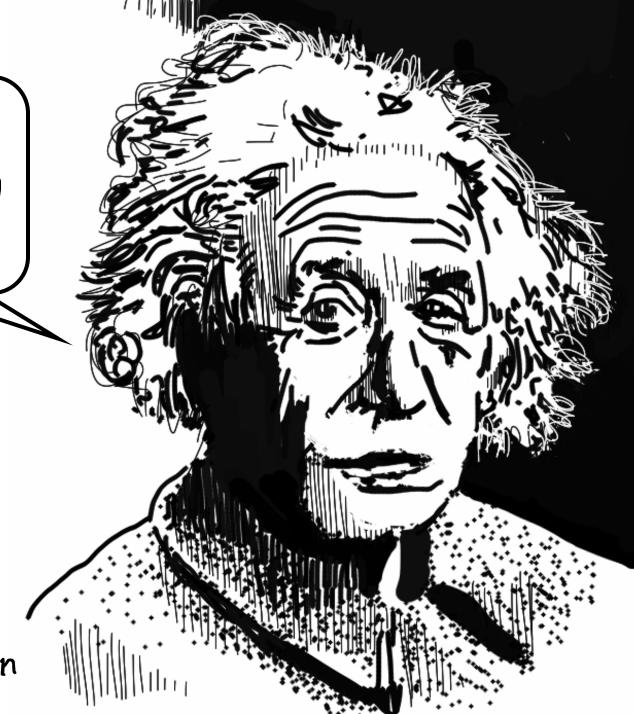




Play is the child's most useful tool for preparing himself for the future and its tasks.

Bruno Bettelheim

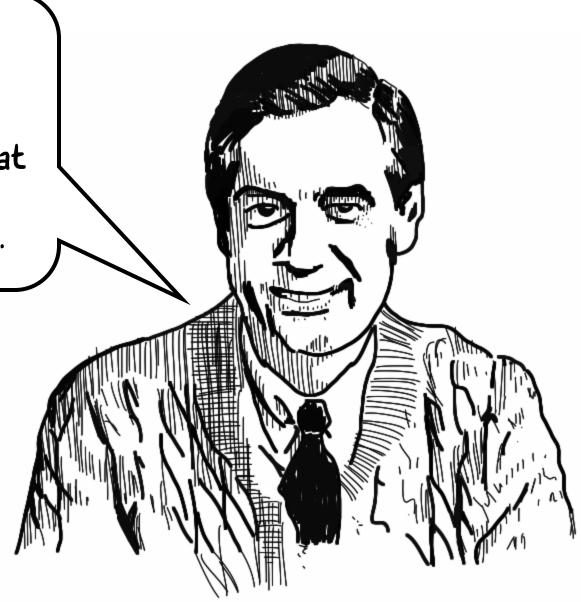
Play is the highest form of research.



Albert Einstein

Play gives children a chance to practice what they are learning. . .

Mr. Rogers



For a small child there is no division between playing and learning.

Penelope Leach

For a small child there is no division between playing and learning.

Play is by its very nature educational.

Joanne E. Oppenheim

For a small child there is no division between playing and learning.

Play is by its very nature educational.

The child amidst his baubles is learning the action of light, motion, gravity, muscular force. . .

Ralph Waldo Emerson

For a small child there is no division between playing and learning.

Play is by its very nature educational.

The child amidst his baubles is learning the action of light, motion, gravity, muscular force. . .

A child loves his play, not because it's easy, but because it's hard.

Dr. Benjamin Spock

For a small child there is no division between playing and learning.

Play is by its very nature educational.

The child amidst his baubles is learning the action of light, motion, gravity, muscular force.

A child loves his play, not because it's easy, but because it's hard.

Almost all creativity involves purposeful play.

Abraham Maslow

For a small child there is no division between playing and learning.

Play is by its very nature educational.

The child amidst his baubles is learning the action of light, motion, gravity, muscular force.

A child loves his play, not because it's easy, but because it's hard.

Almost all creativity involves purposeful play.

Play is the answer to how anything new comes about.

Jean Piaget

Some theorists on games and play have made a point of dividing up the spectrum



FINITE GAMES
Have starts and ends
And a goal of winning

INFINITE GAMES
Are played in order to keep playing

James P. Carse

Some theorists on games and play have made a point of dividing up the spectrum



GAMES
Externally imposed rules
Goals

PLAY
Freedom from all but
personally imposed rules
No goals

Bruno again...

Some theorists on games and play have made a point of dividing up the spectrum

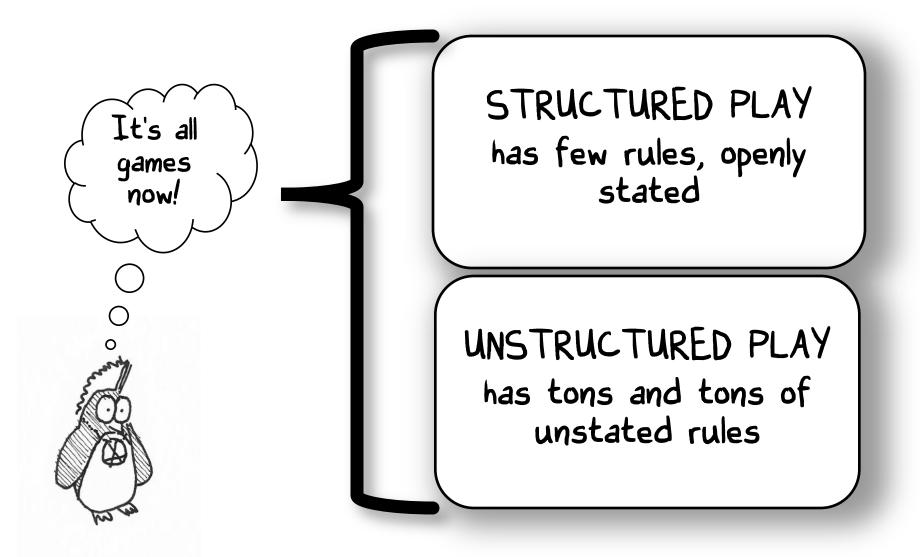


LUDUS Structured activity and explicit rules

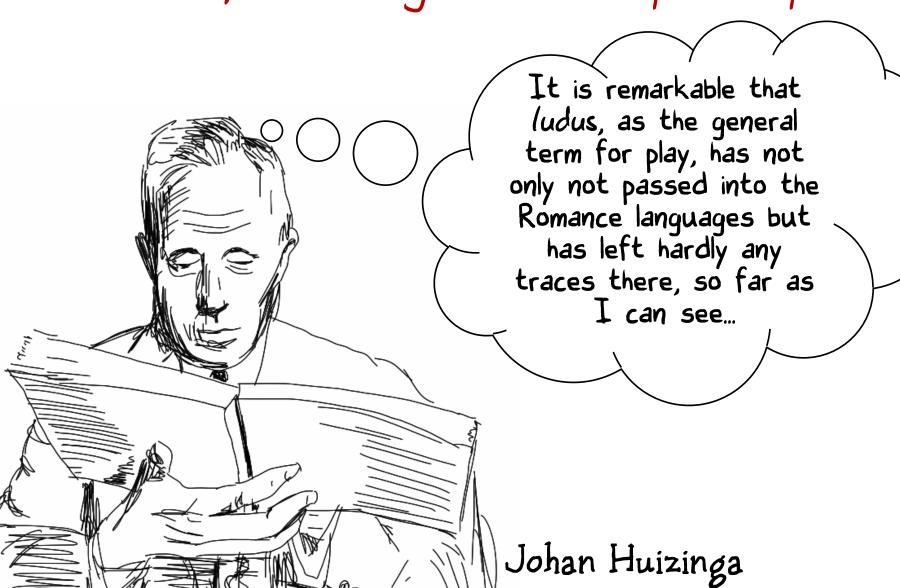
PAIDIA
Unstructured and spontaneous activities

Roger Caillois

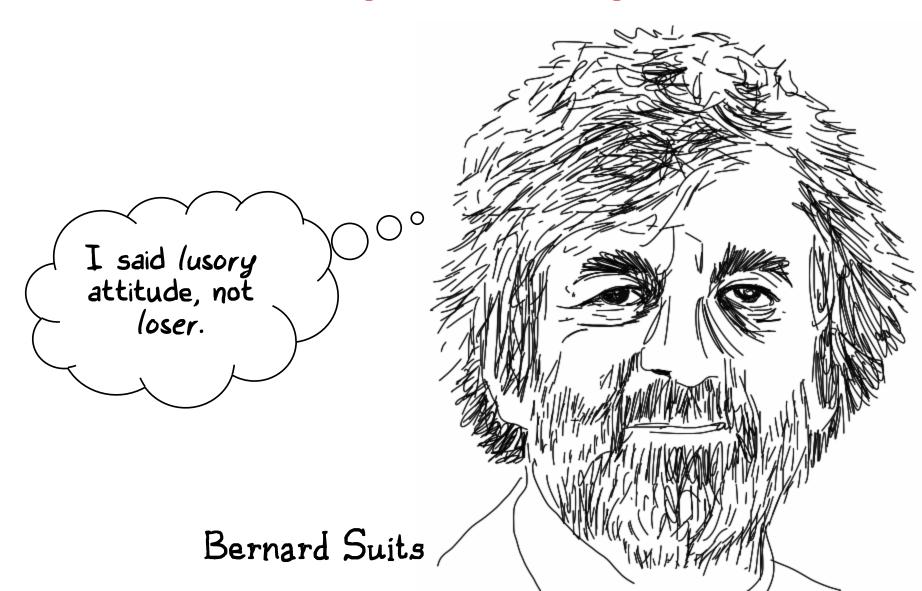
... but Theory of Fun calls this a false dichotomy.



In Latin, there was just one word for all of it.



We live in a world of systems, and choose whether to make a given system a game.



And further, since games implicitly teach systems - that we have an art form on our hands that actually changes brains. So we had better use it responsibly.

Cartoon idea: a guy with a Tetris block for a head says to a girl with a Ms Pac Man for a head, "Hey, what happened to that guy over there who's missing his head?"

"I dunno, he must have played too much Bomberman!"

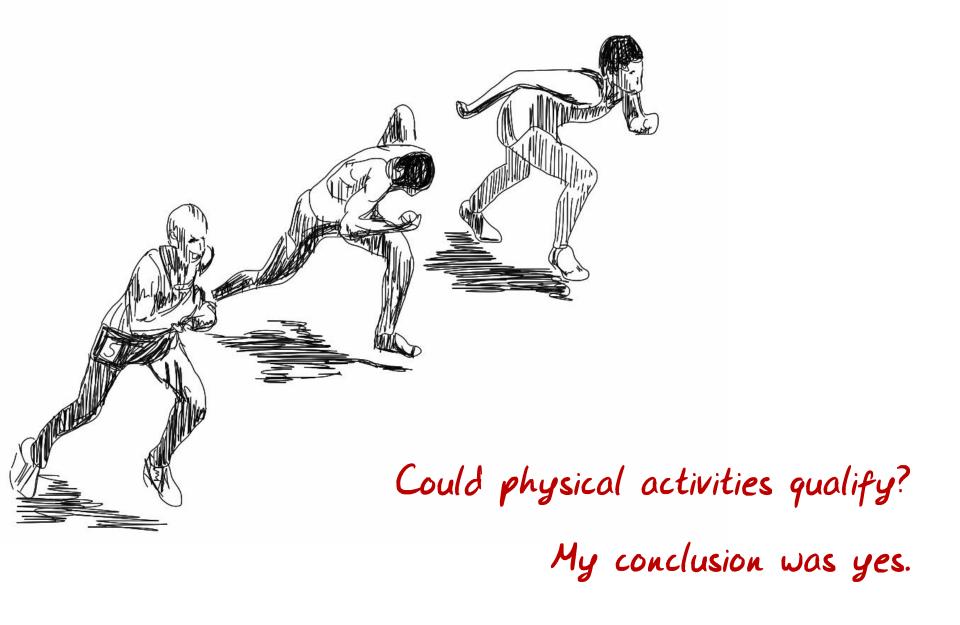
I'm here all week, folks.

There have been a range of critiques in the years since I gave the talk, especially after the book.

I really liked the book, but the cartoons were TERRIBLE. Like, painfully bad. Why didn't you get an artist to draw them? It made it hard to look at the pages, because they were so bad. It was distracting. Did someone tell you that you could draw? Because they were wrong, I mean, these are so amateurish, it's embarrassing. But I did like the book, I mean, you had good things to say, it's just too bad it was so effin' UGLY, man.

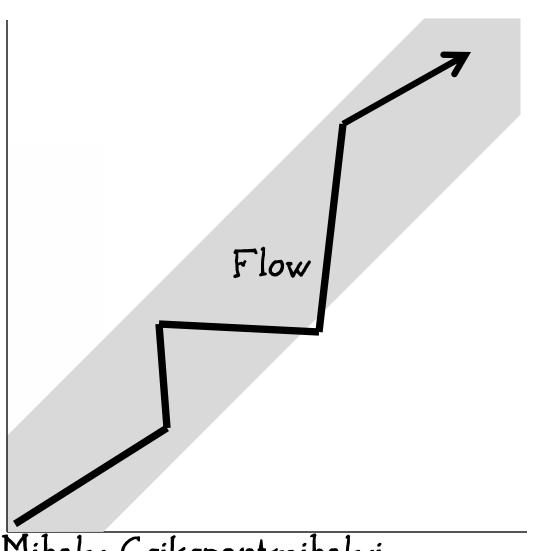
* Actual critique someone gave me once at GDC





Isn't this just flow? Nah, fun was not the same thing as flow.



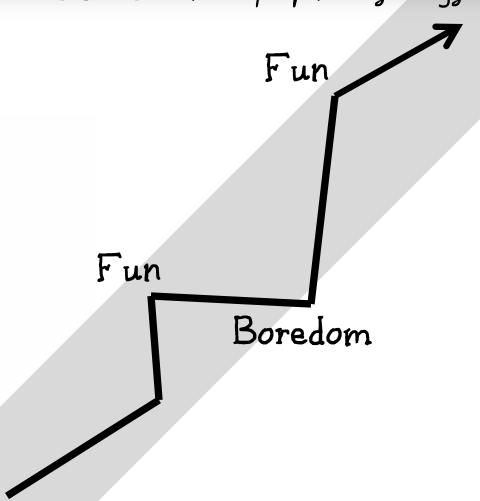


Mihaly Csikszentmihalyi

Flow represents a neurological event that differs in degree rather than type from other similar events.

Arthur Marr, in Athletic Insight: The Online Journal of Sport Psychology





I intentionally excluded a lot of stuff we call "fun" from the definition.

EASY FUN

HARD FUN

ALTERED STATES

SOCIAL FUN



I said that delight was an act of recognition, and transitory.

Delight, not fun

HARD FUN

VISCERAL FUN

SOCIAL FUN



I concluded that social interaction IS a game to master, though it provides other emotions too.

Delight, not fun

HARD FUN

VISCERAL FUN Psych is hard Fun!



And I also decided that mastery of your own body is a game as well: a pattern to learn.

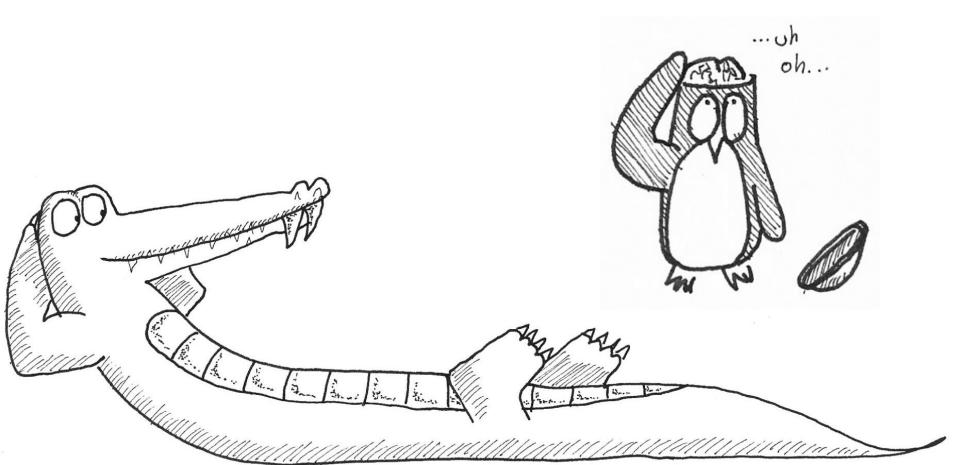
Delight, not fun

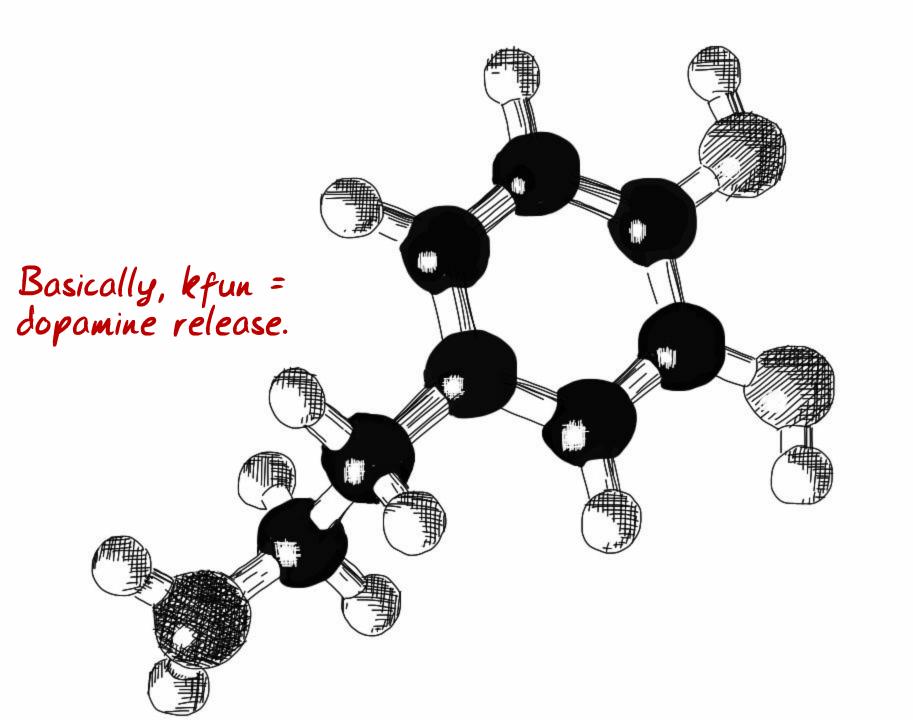
HARD FUN

Autonomic system: The Game! Psych is hard fun!



Some folks, in fact said that we might as well call my kind of fun KFUN.







Research says that dopamine can release for "richly interpretable" situations.



Irving Biederman

Edward A Vessel

This means it can happen in all sorts of situations; but not all game experiences may trigger it.

Perfectly valid non-fun reasons to use games.

PRACTICE

Can be fun done right, but often isn't

STORY

Usually works best with minimal game

MEDITATION

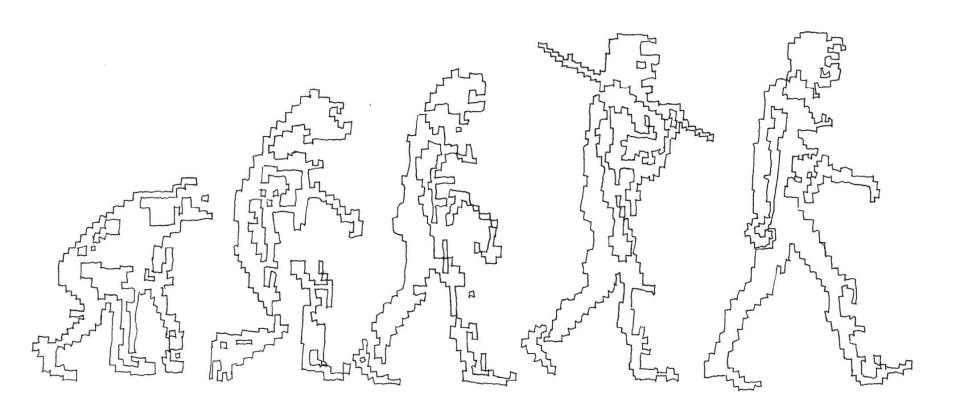
As a focus for repetitive action

COMFORT

is comforting, not fun

A fair amount of people just hate evolutionary psychology. . .





Subjects who played casual games for 30 minute periods showed an 87 percent improvement in cognitive response time and a 215 percent increase in executive functioning.

East Carolina University's Psychophysiology Lab

Expert gamers outperform novices across several measures of attention and perception

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Expert gamers outperform novices across several measures of attention and perception

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Brain structure appears to predispose you towards game skill and more, towards success in specific skills.

Erickson, U Pittsburgh

Playing games can cure "lazy eye" better than an eye patch.

Expert gamers outperform novices across several measures of attention and perception

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Brain structure appears to predispose you towards game skill and more, towards success in specific skills.

Playing games can cure "lazy eye" better than an eye patch. periods showed an 87 Playing video games ires rovement in cognitive especially those that me and a 215 percent require planning and e in executive functioning. strategy - and Sudoku also were Brain structure beneficial to working appears to predispose memory you towards game skill - and more, towards Alloway, University of Stirling success in specific skills.

Playing games can cure "lazy eye" better than an eye patch.

Playing video games - especially those that require planning and strategy - and Sudoku also were beneficial to working memory

Training with Wii Fit and Wii Sports improved balance in Parkinson's patients

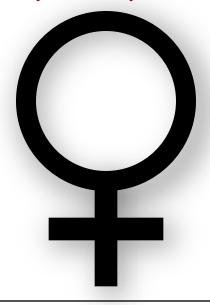
periods showed an 87 lives rovement in cognitive me and a 215 percent executive functioning.

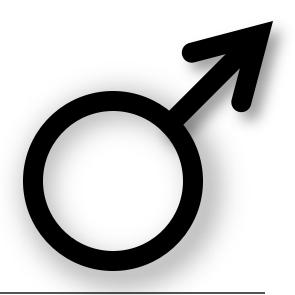
Brain structure appears to predispose you towards game skill - and more, towards success in specific skills.

One of the things people complained about in the book was a perceived sexism.



That said, it's undeniable at this point that there are cognitive differences that must affect predisposition towards specific games.





Possik	oility	of
tetrac	hrom	ats

Faster response time for seeing static objects

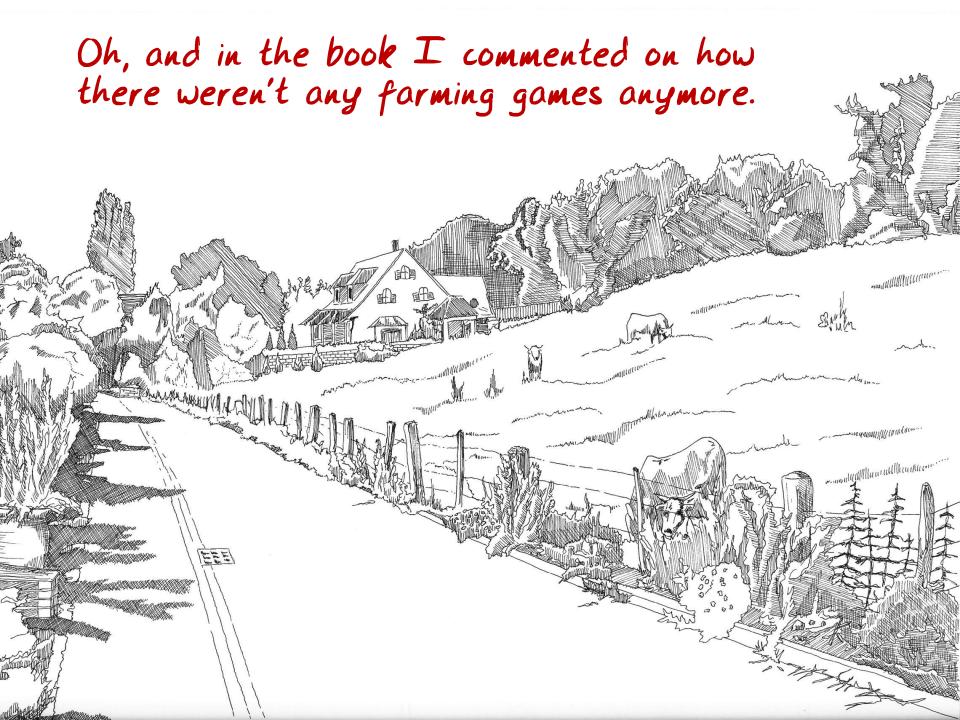
Male child leaves DNA in the brain

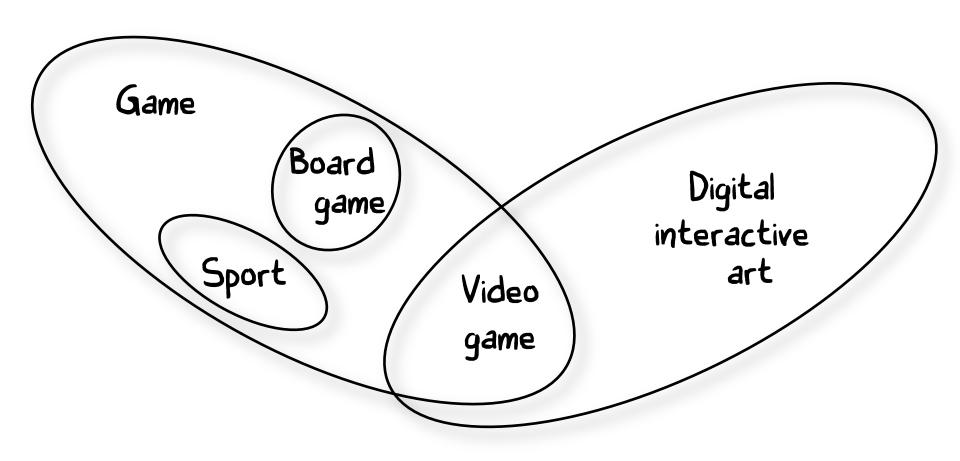
Frequently dichromats

Faster response time for seeing moving objects

And rather than all the various different personality models I mentioned in the book, I'd probably point towards the Big Five or OCEAN model today.

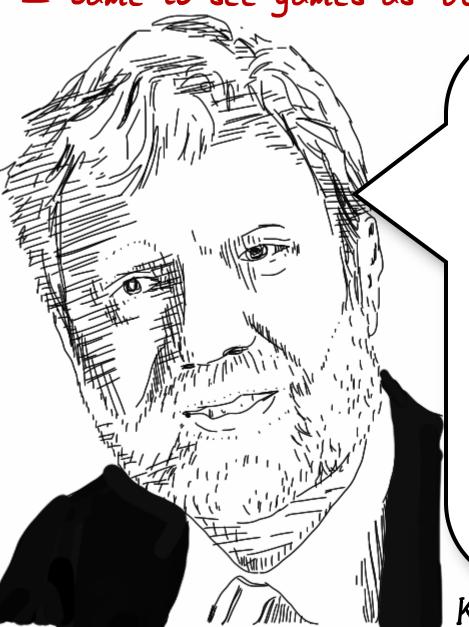






A consequence of all this was being led into approaching games themselves in a science-y way.

I came to see games as "deliberate practice" machines.



Designed to improve performance? Check.

Repeated a lot? Yup.

Continuous feedback?
Sure!

Mentally demanding (focus ¢ concentration)? Of course!

Hard, like off the top end of flow? Absolutely!

Requires clear goals? That's it, it's deliberate practice!

K. Anders Ericsson

I ended up finding a definition that encompassed both this notion and the earlier thoughts about turning anything into a game-

Playing a game is the act of solving statistically varied challenge situations presented by an opponent who may or may not be algorithmic within a framework that is a defined systemic model.

A "game" is an intentionally designed artifact for the above.

PUZZLE

Closed solution set; the opponent does not fight back.

In this I drew other people's thoughts on toys, puzzles and riddles.

TOY

Goal not externally imposed; open solution set.

GAME

Goal; opponent who fights back; open solution set.

ho

Greg Costikyan

PUZZLE

Closed solution set; the opponent does

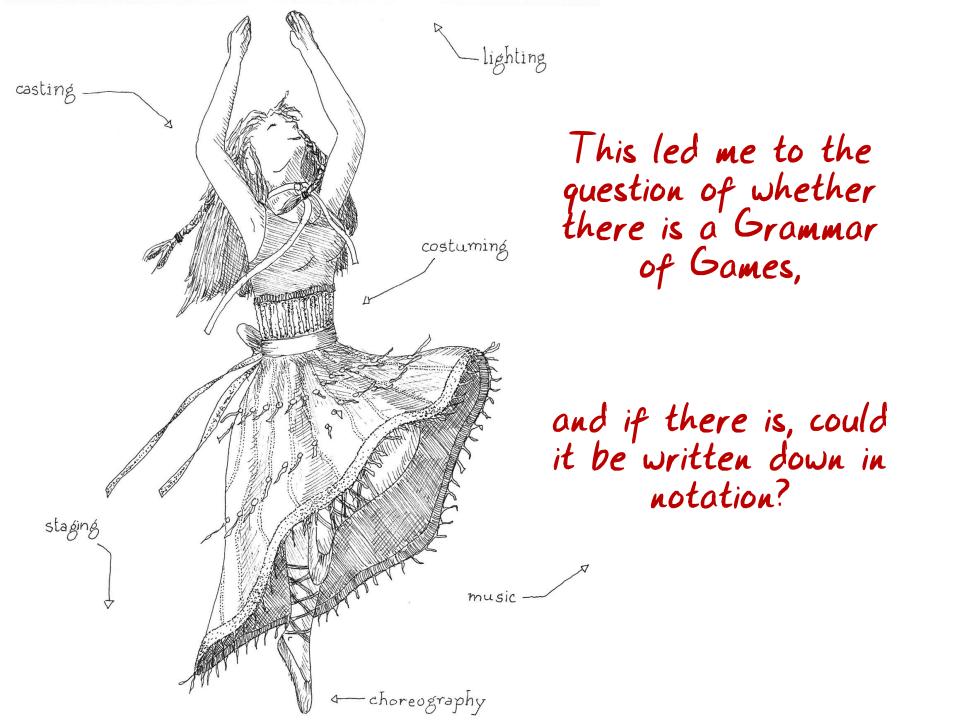
In this I drew other people's thoughts on toys, puzzles and riddles.

TOY

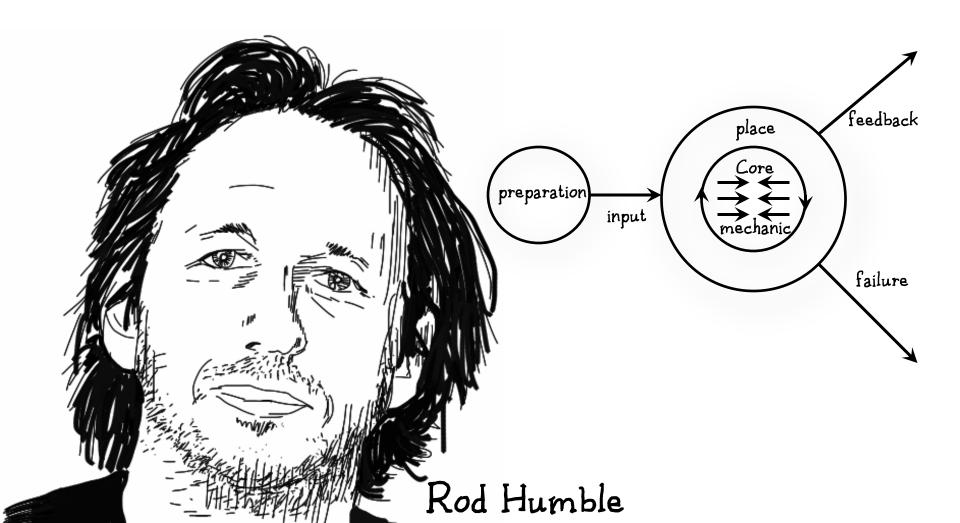
Goal not ext imposed; of solution : Actually, I hope you don't mind, but I deserve some credit here too...

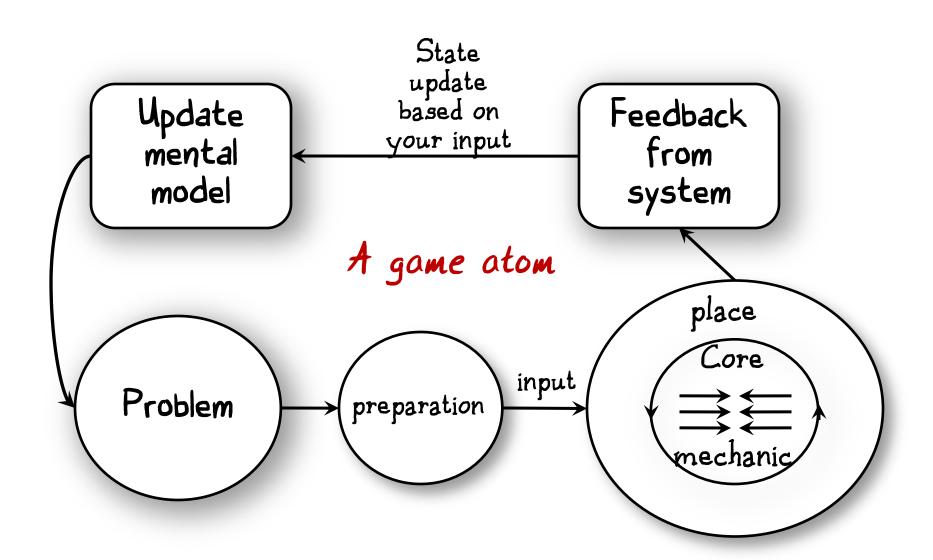
fights back; open solution set.

Greg Costikyan



The basic structure was born from another conversation with a friend, as we tried to solve a specific design problem.





One of the key premises of Theory of Fun is the vast gulf between a game's surface and its actual meaning. . .



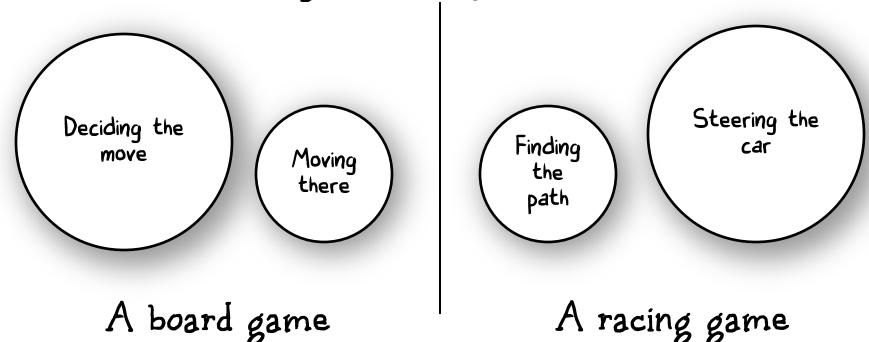
An avenue of discussion that these days is known as

"ludonarrative dissonance."



Clint Hocking!

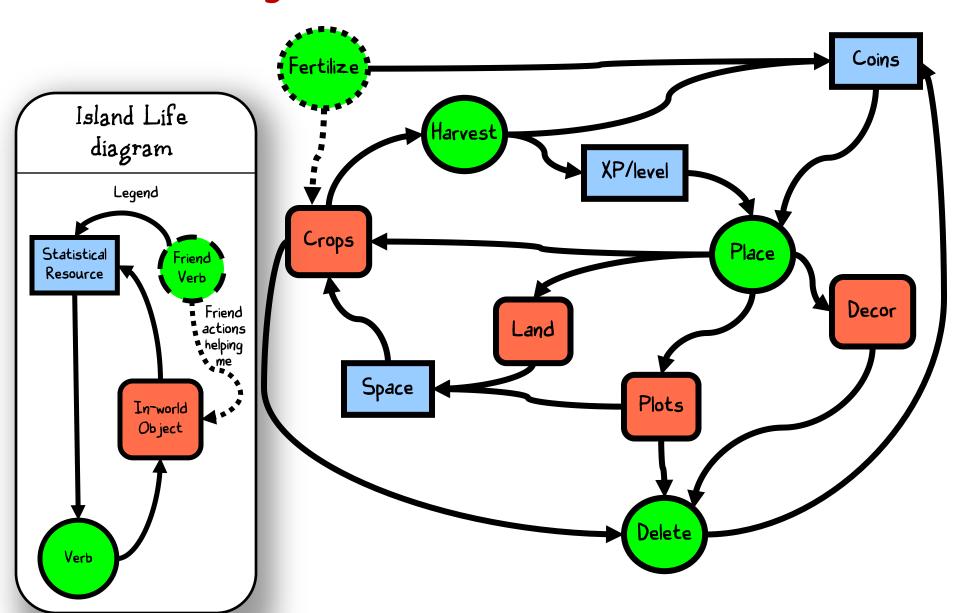
Magnitude of problems



Game grammar went further. For example, we talk about "the game is the interface" but game grammar says it isn't.

The interface might be ANOTHER game, though.

Instead games are like this, abstract models.

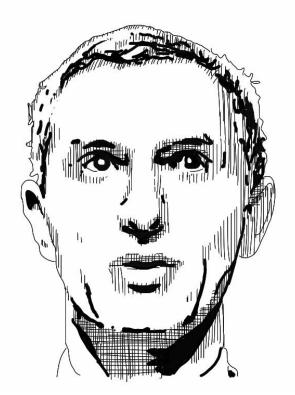




Game grammar has been developed largely independently by several folks at this point, and it's important.

This is very much the birth of a science of game design. . . We are seeing some of the mathematical and structural bones of our folk systems laid bare.

"Skill atoms"



Ben Cousins
Early work on
cognitive
patterns

Stéphane Bura Petri Net game flows





Joris Dormans and Ernest Adams

The Machinations framework and interactive tool



The only four core mechanics in games

Solving problems perceived as NP-hard using heuristics

Understanding other people \$ social relationships

Mastering your physical reactions

Exploiting the brain software bug around probability estimation

I ended up concluding that there are only four kinds of problems sitting at the center of game atoms.

AGON Competition or contest MIMICRY Roleplay and make-believe

ILINX
Visceral
reactions and
vertigo

ALEA Chance operations Of course, plenty of others have found similar patterns.

AGON
is hard fun vs
an NP-hard
problem or
opponent

MIMICRY Roleplay and make-believe

ILINX
Visceral
reactions and
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is pattern
mastery of
NP-hard
frames of
reference

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is pattern
mastery of
NP-hard
frames of
reference

ILINX
is the hard
fun of
mastery of
autonomic body
systems

ALEA Chance operations Of course, plenty of others have found similar patterns.

Alas, all this did was reinforce the degree to which "games are math."

AGON
is hard fun vs
an NP-hard
problem or
opponent

MIMICRY
is pattern
mastery of
NP-hard
frames of
reference

He's misappropriating my terms, the jerk.

ILINX

is the hard
fun of
mastery of
autonomic body
systems

ALEA
is a brain bug
tricking us into
thinking chance
is an NP-hard
problem



It made me unhappy to think that, and I questioned what games could achieve as an art form.

Or a game with shades of gray, instead of 256 levels of grayscale?

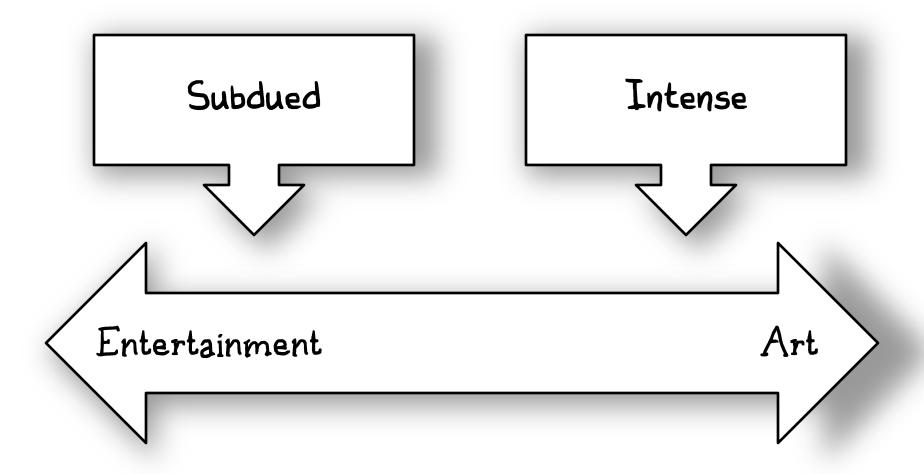


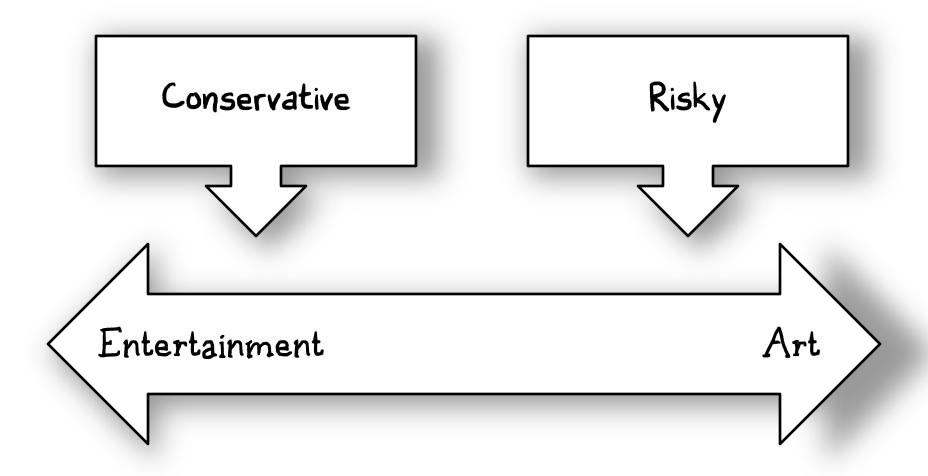


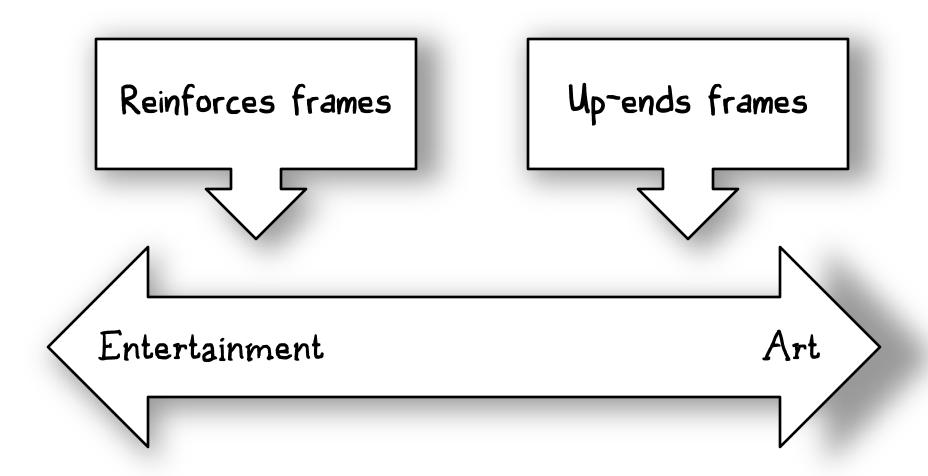


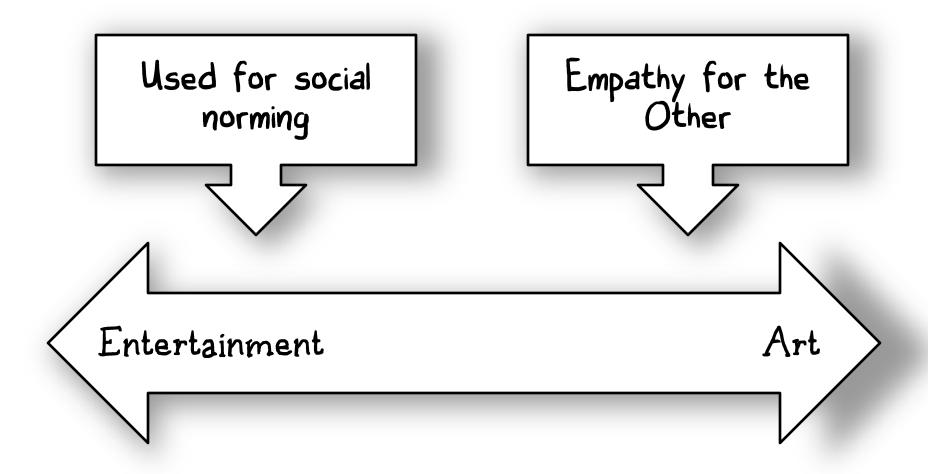
Jason Rohrer, "Passage"

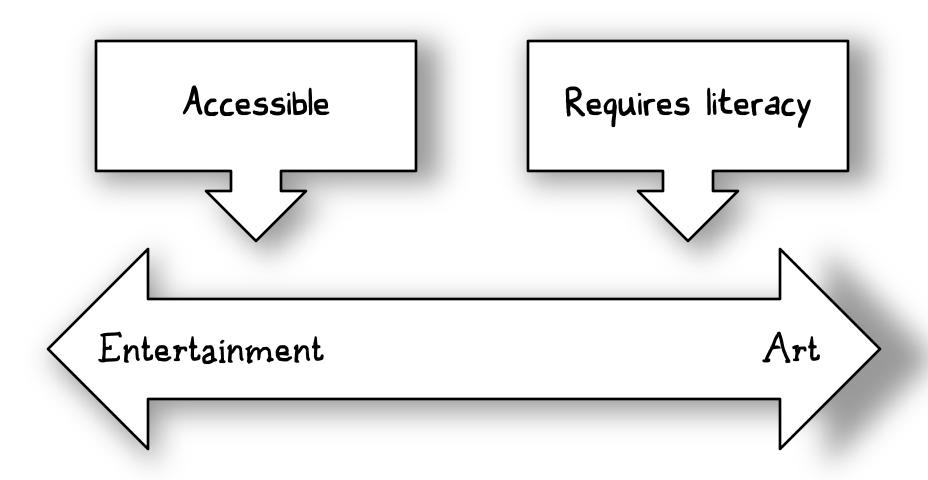
See, an unintended consequence of Theory of Funwas inspiring key folks in the art games movement.

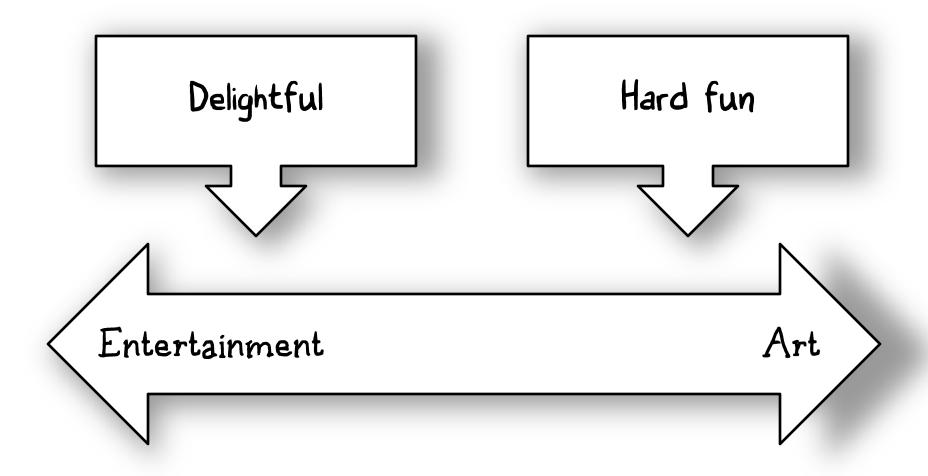


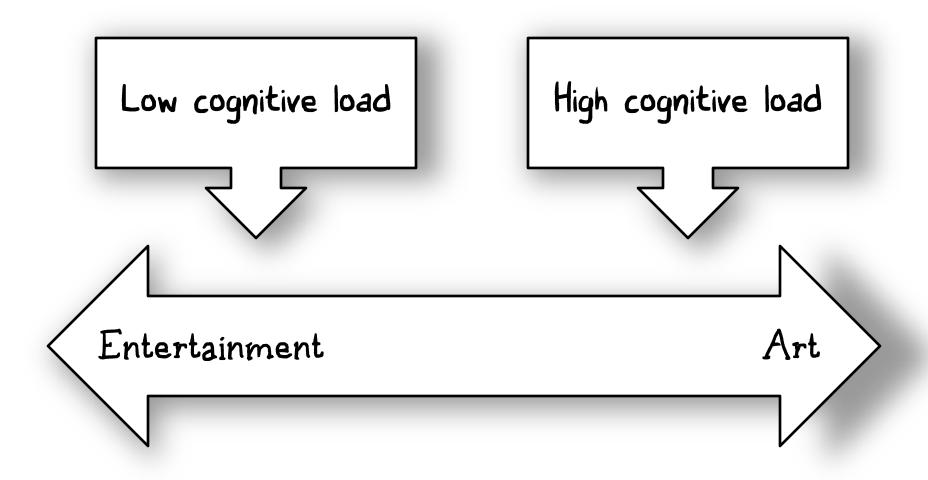




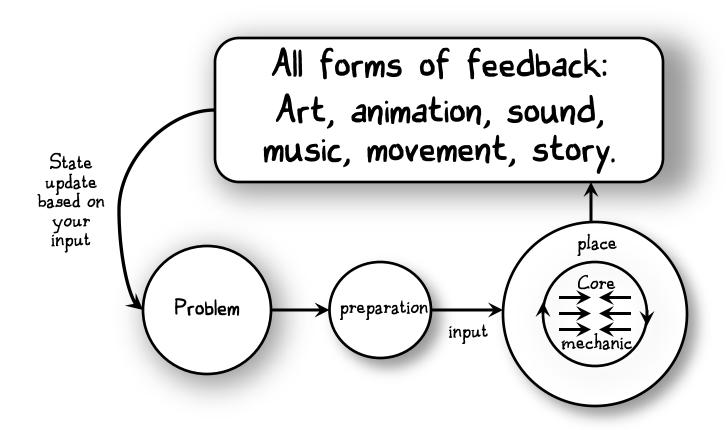


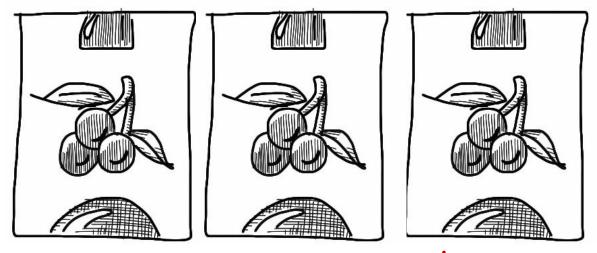




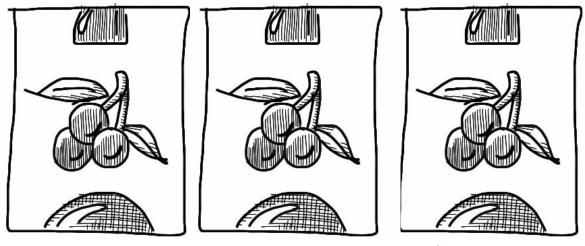


The further I got into game grammar, the more I saw surface elements as being part of the way the game gives you feedback on your actions.





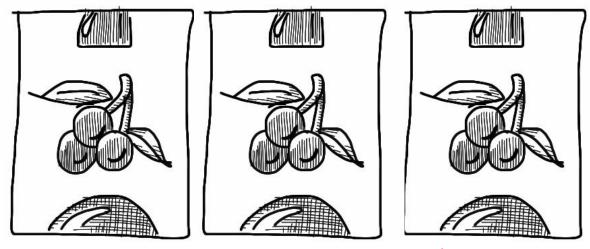
a core aspect of game design . . .



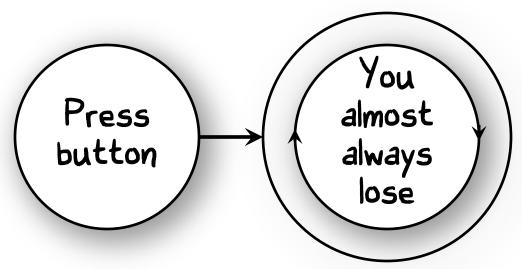
a core aspect of game design . . .



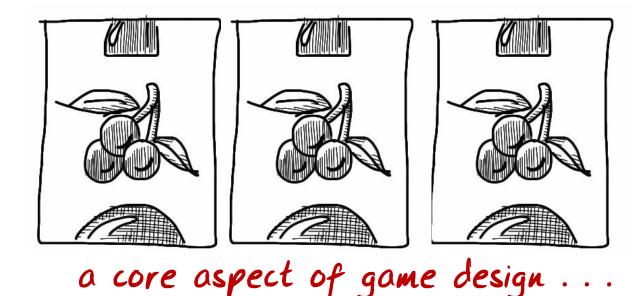
Small problem

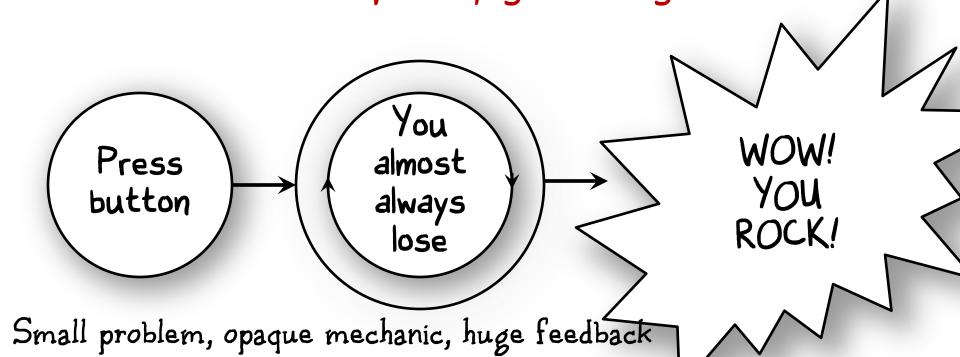


a core aspect of game design . . .



Small problem, opaque mechanic

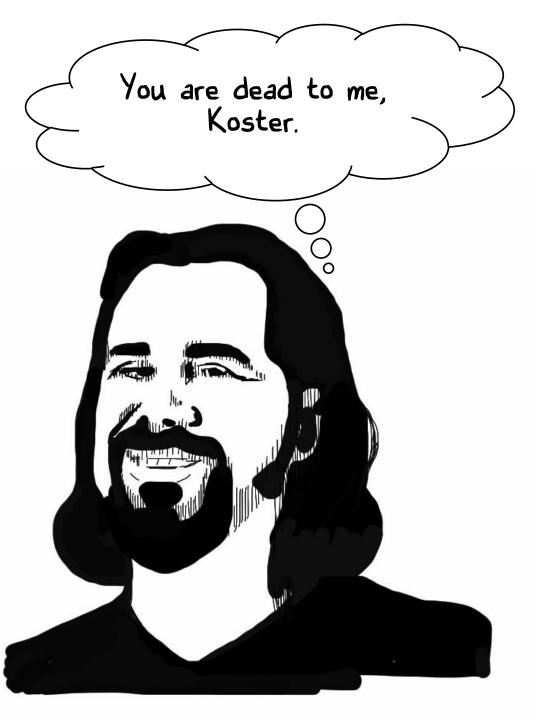




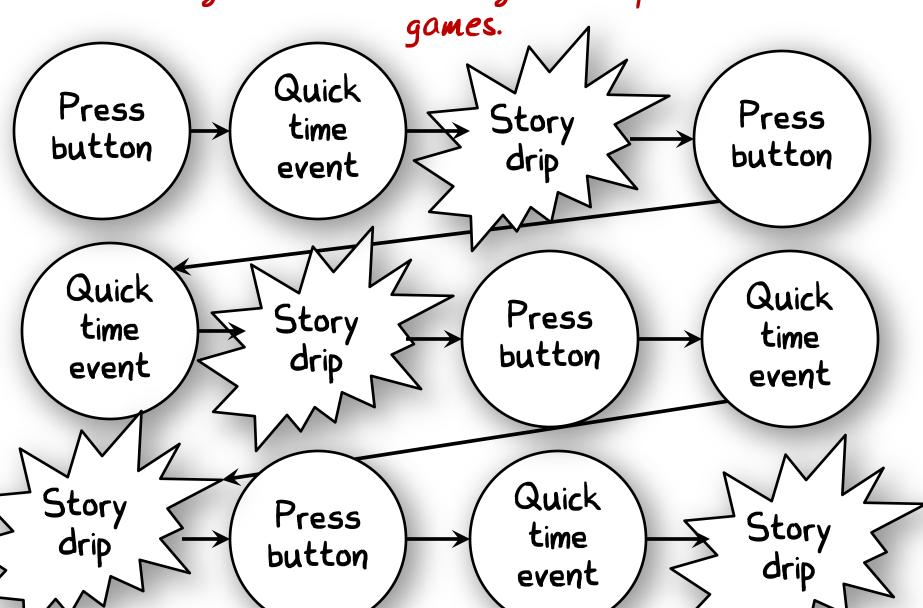
... which also led to the book being a key inspiration to the nascent field of gamification.

Which has a whiff of evil.

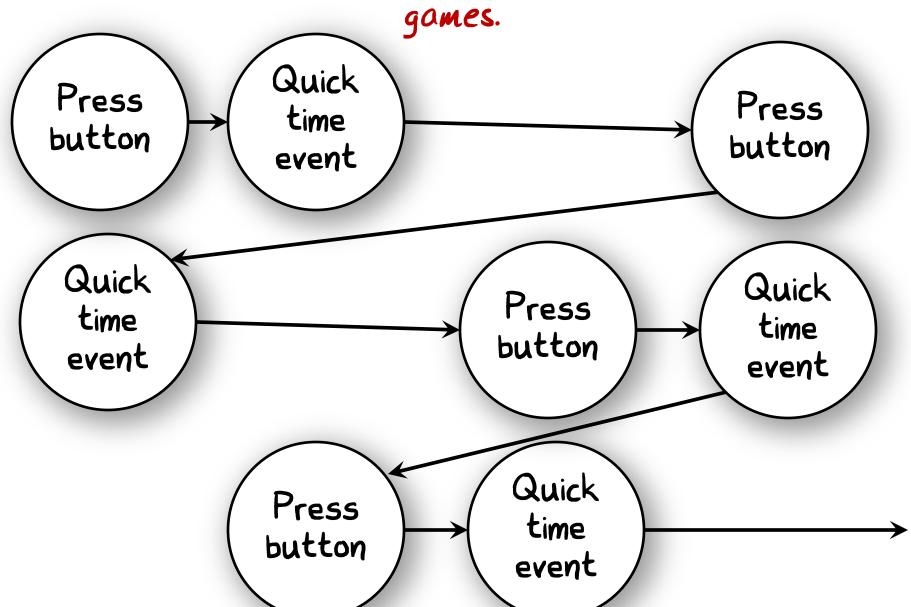
Ian Bogost

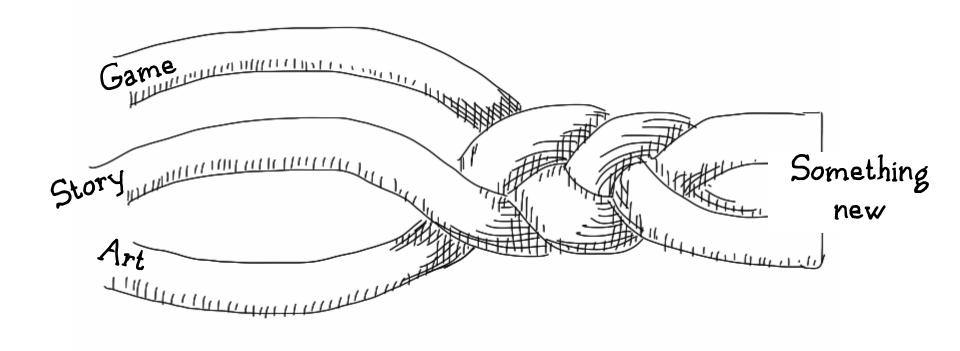


This led me to become deeply skeptical that authorially constructed story has a formal role in



This led me to become deeply skeptical that authorially constructed story has a formal role in games.



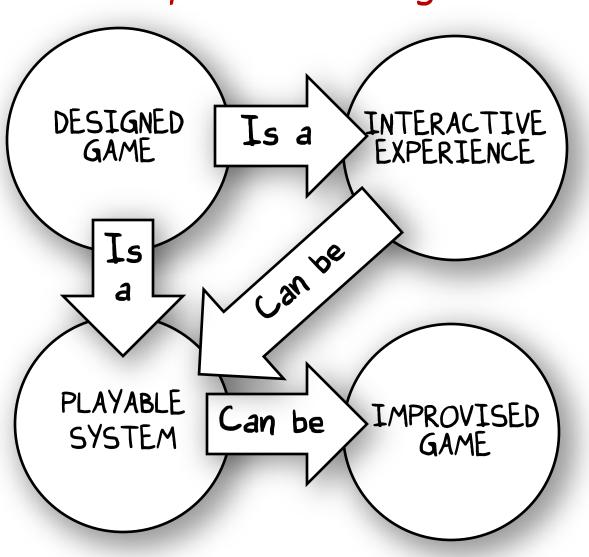


Not that it shouldn't exist, but that it is like a second medium woven into games.

Which means we maybe need a new name for some kinds of what we call games.

Exists
independent
of any and
all
presentation:
e.g., chess in
your head.

This includes many of life's systems. Economics, politics, etc.



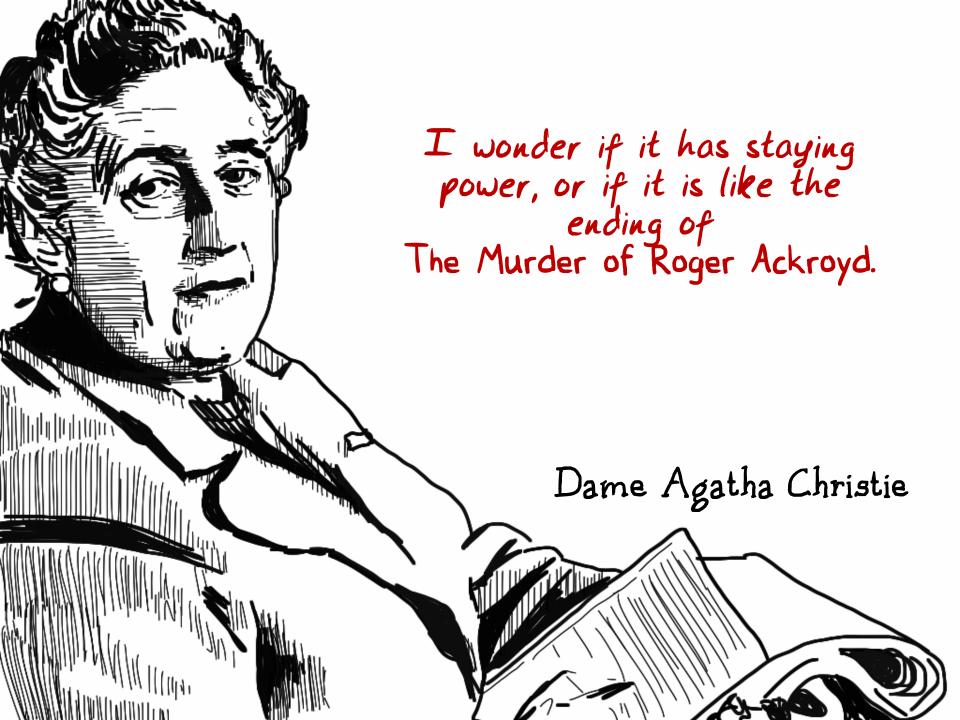
There are things here that are not "formally" games, like the interactive fiction Photopia.

A ball is a toy.
Catch is a game with a ball and the physics ruleset.

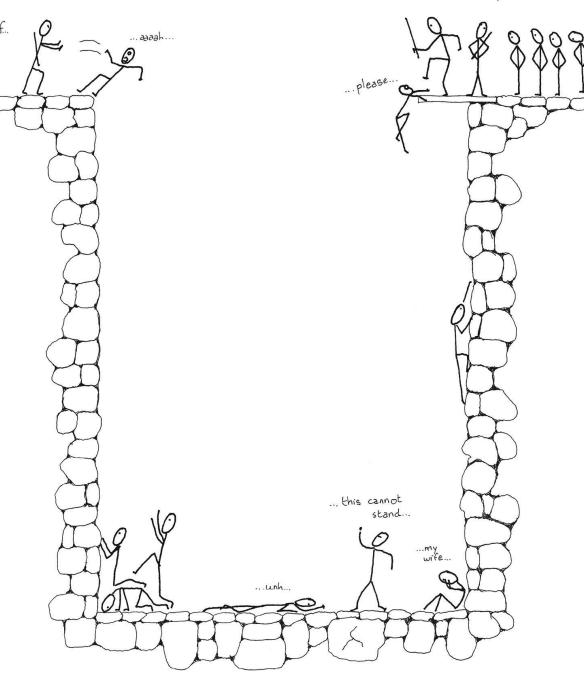
One of the things I have come to wonder about is the "Train gambit" - where the mechanics of a game are designed to make you complicit in something distasteful, unethical, or outright evil.



Brenda Garno Brathwaite



...you're next ...



Or, perhaps, there is a sort of ludonarrative consonance, where mechanics are surprisingly apt for a fiction.

I think games have two ways of meaning: prescriptive and descriptive.

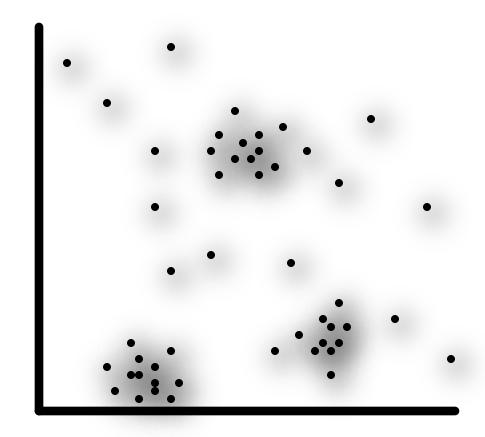
It is questionable whether the descriptive form is really even possible.

In either case, we can understand "what" happens without understanding "why."



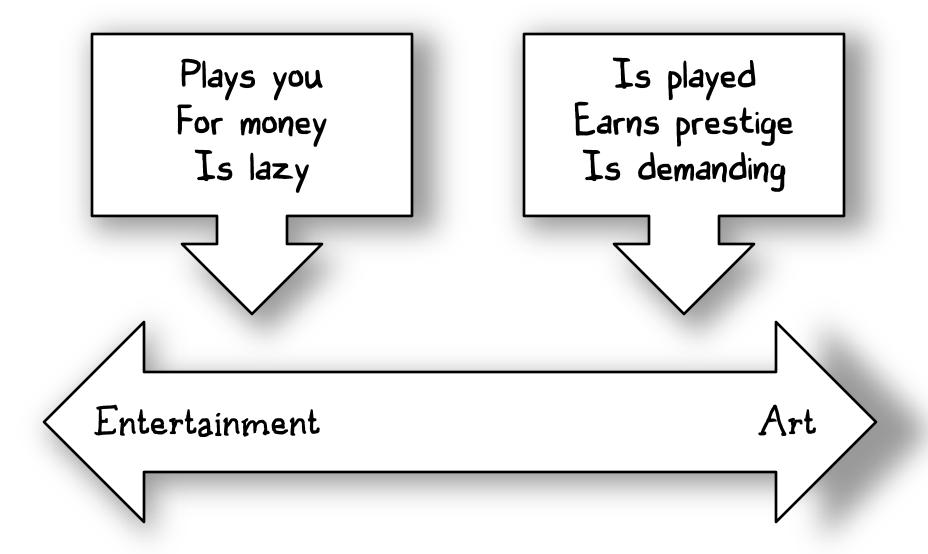
Will Wright

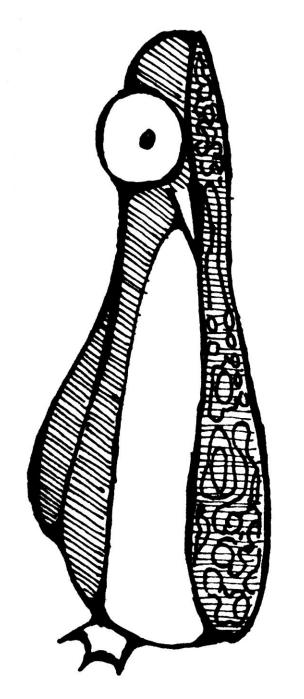
That's a bit scary.



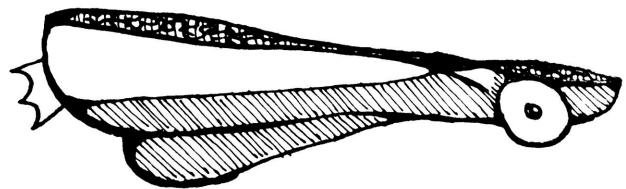
What, really, is the gap between a cluster analysis and a stereotype?

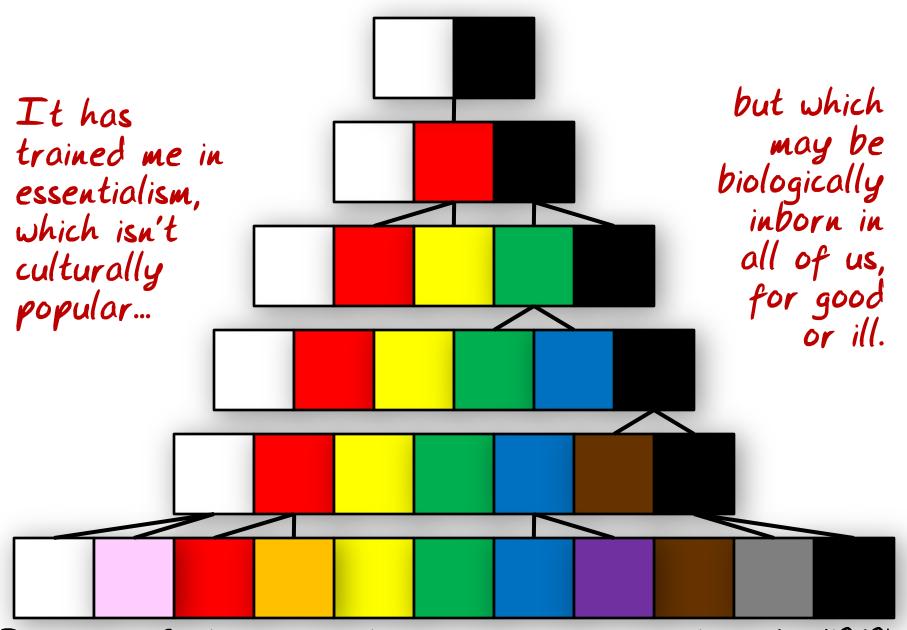
Entertainment is useless, in that sense.





I arrived at a systemic view of games, but it might be that games trained me to see everything as systems.





Progression of colors added to languages, according to Berlin & Kay (1969)

The problem with games being treated as reality, or reality treated as games, is that there is the scary potential for the opposite of play: a permanent rat race.

The real world just doesn't offer up as easily the carefully designed pleasures, the thrilling challenges, and the powerful social bonding afforded by virtual environments. Reality doesn't motivate us as effectively. Reality isn't engineered to maximize our potential. Reality wasn't designed from the bottom up to make us happy.



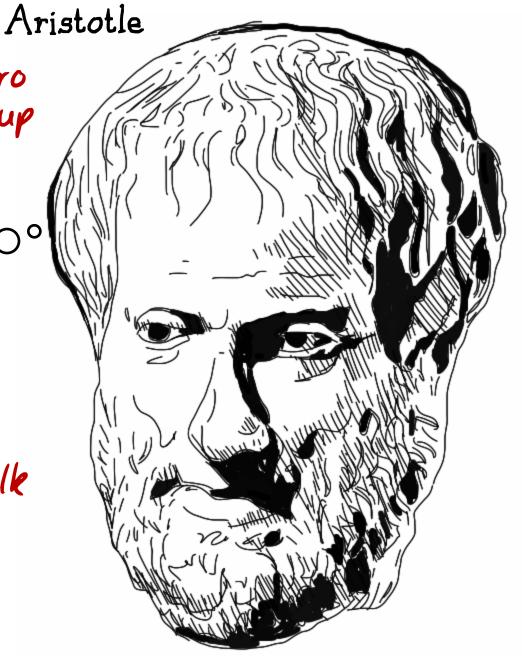
Should we treat life as a game?

Aristotle defined a hero as someone who faces up to tough luck.

Man, I've had tough hamartia lately. FML.

In a game you can walk away.

But learn something. Joyously.



*this slide would not exist if not for Sebastian Deterding

There's a science of happiness now, and they know what drives feeling happy in life.

- · Gratitude
- · Using your strengths
- · Social connection
- · Generosity
- · Mindfulness: savoring your experiences
- · Striving for goals
- Optimism
- · Don't reduce the bad increase the good

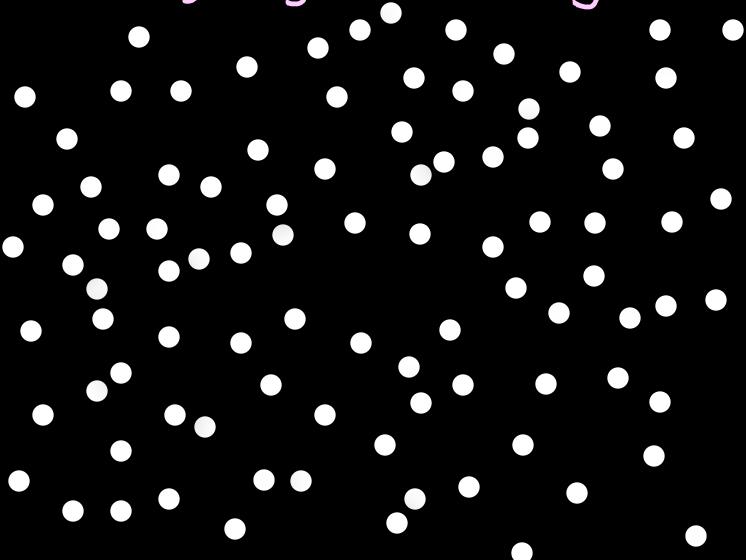
That list looks a lot like what we get from games at their best.

In the end, I am reminded of a different Greek philosopher: Epicurus.

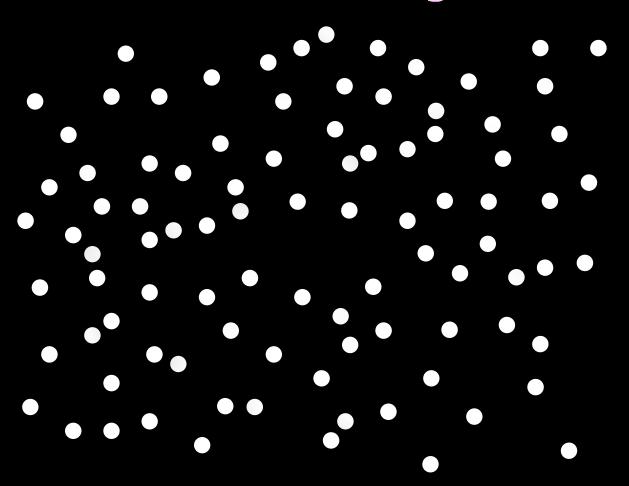


He saw the world as made of atoms.

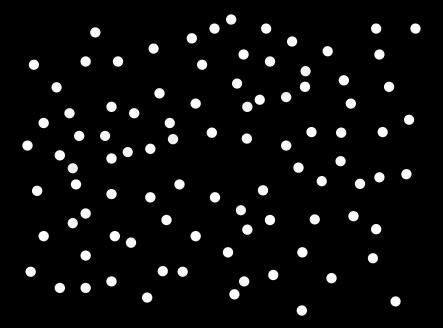
Everything that exists, just



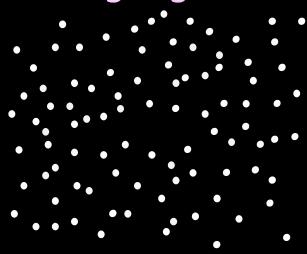
the chance arrangement



of particles



coming together



for a time,

then parting.

Which means everything passes.

And



everything



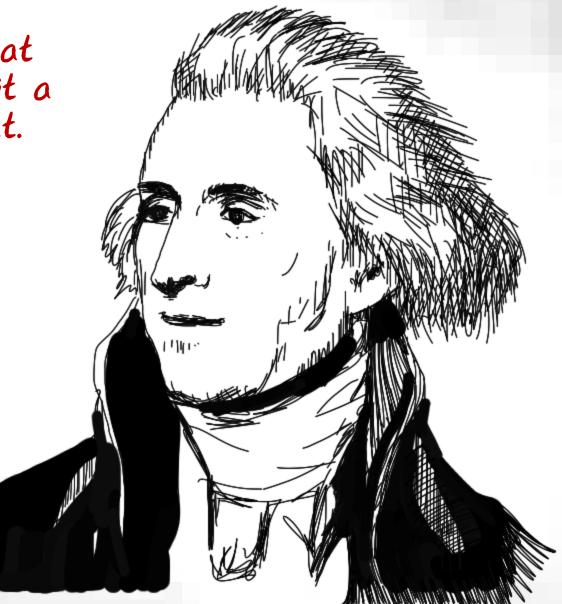
also comes together.

This led to a life philosophy: you're going to be oblivious dust, so you should enjoy your conscious time.

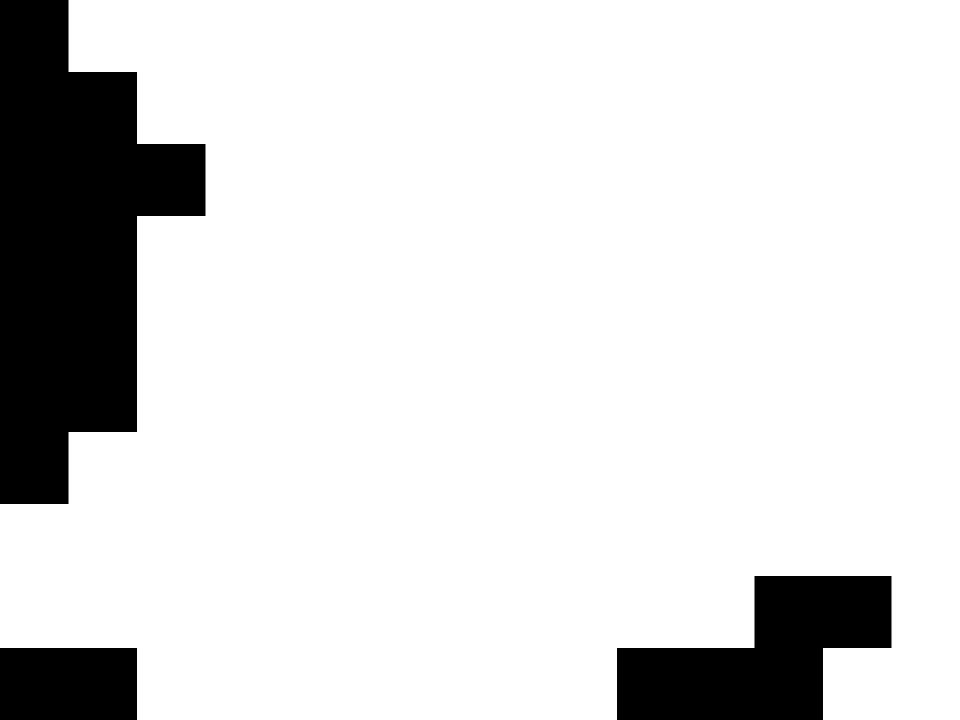
This idea had some powerful adherents-

powerful enough that they tried to make it a basis of government.

powerful enough that they tried to make it a basis of government.



Thomas Jefferson



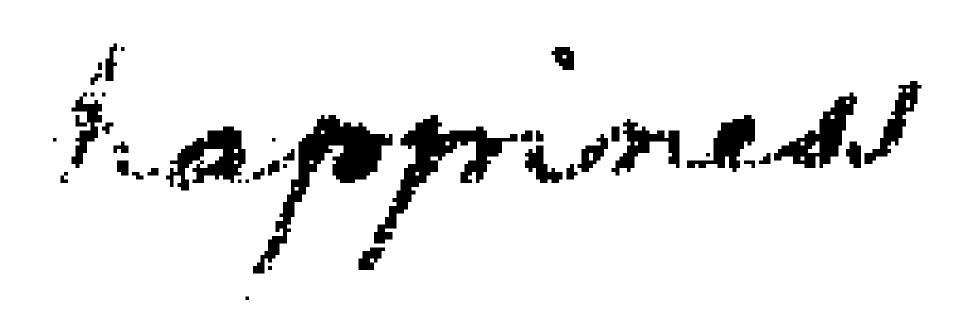
To me, a theory of fun says that games are in many ways not just deliberate practice machines,



not just a swirl of systems,

But a space between the dust from which we came





and the dust we shall be

in which we can engage in the grand pursuit.

life # liberty, & the prevouit of happiness

in which we can engage in the grand pursuit.

life # liberty, & the prevouit of happiness

Ahem.

Done yet?



in which we can engage in the grand pursuit.

life # liberty, & the prevouit of happiness

CHARGE!



