

**GDC**  
12  
**CHINA**

# How Games Think

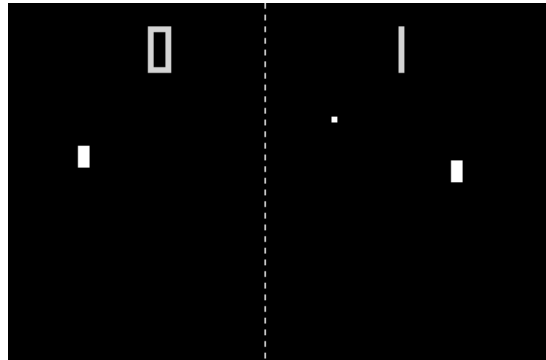
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Raph Koster  
VP of Creative Design  
Playdom

2012 游戏开发者大会 · 中国  
GAME DEVELOPERS CONFERENCE CHINA  
SHANGHAI, CHINA  
NOVEMBER 17-19, 2012

# 2012

# ➤ About me



› Games are culture now



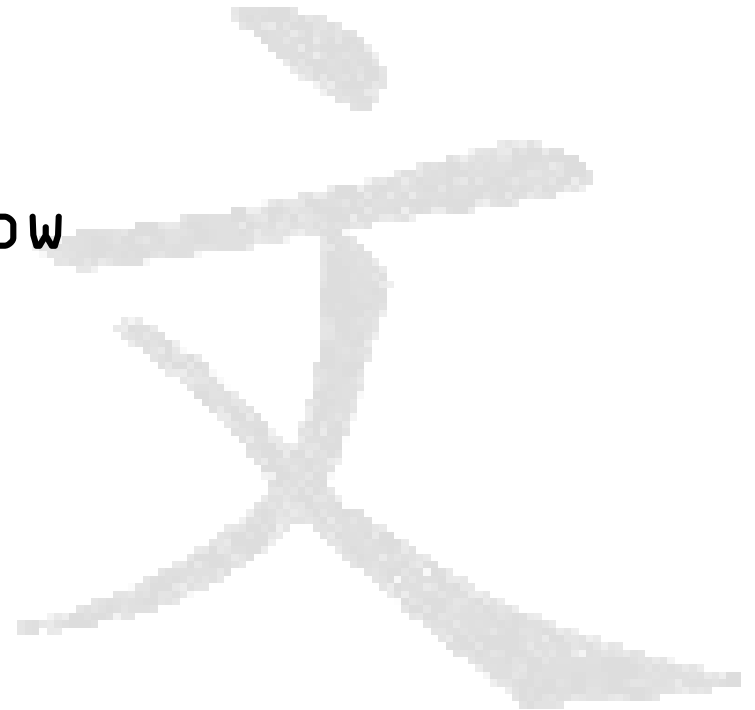
› In other words, we spend less time on the things that once shaped our cultures.



› More young people see game art than this art.

## › Poetry

- › More young people know the stories of games than know the great writers.



## › Music

- › More young people every year hear the music of games, rather than the music of their people.



› As culture changes...

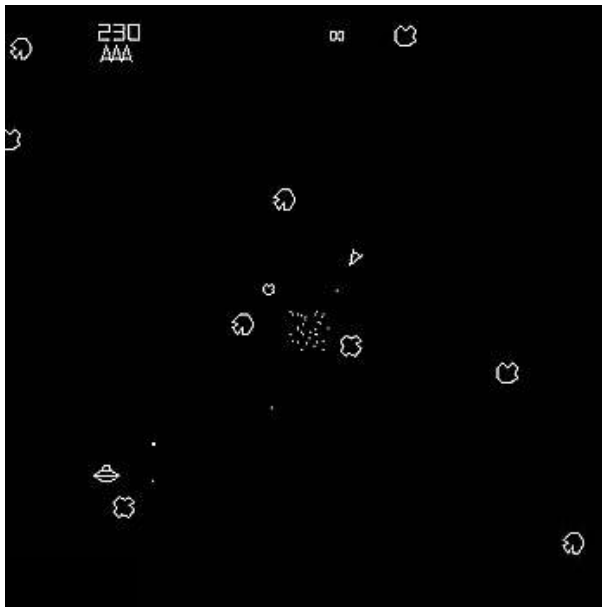


› We in this room are shapers of culture.

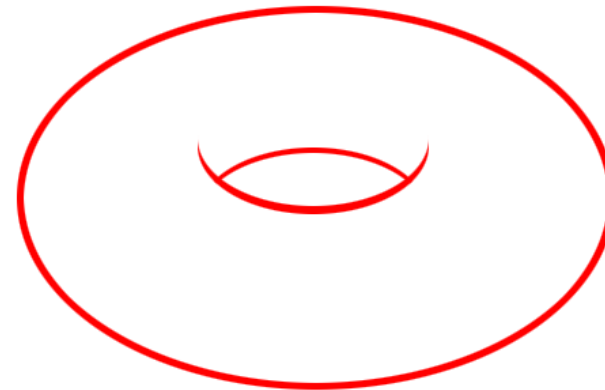
› We have a special kind of power.

› Appearance and topology

› Games are not what they look like on the surface.



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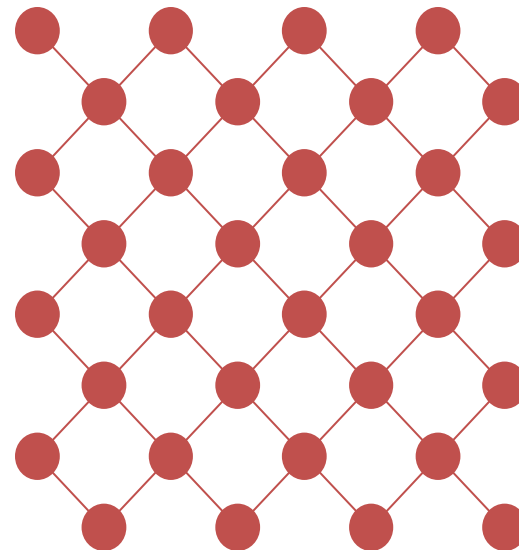


## › Appearance and topology

› Games are not what they look like on the surface.

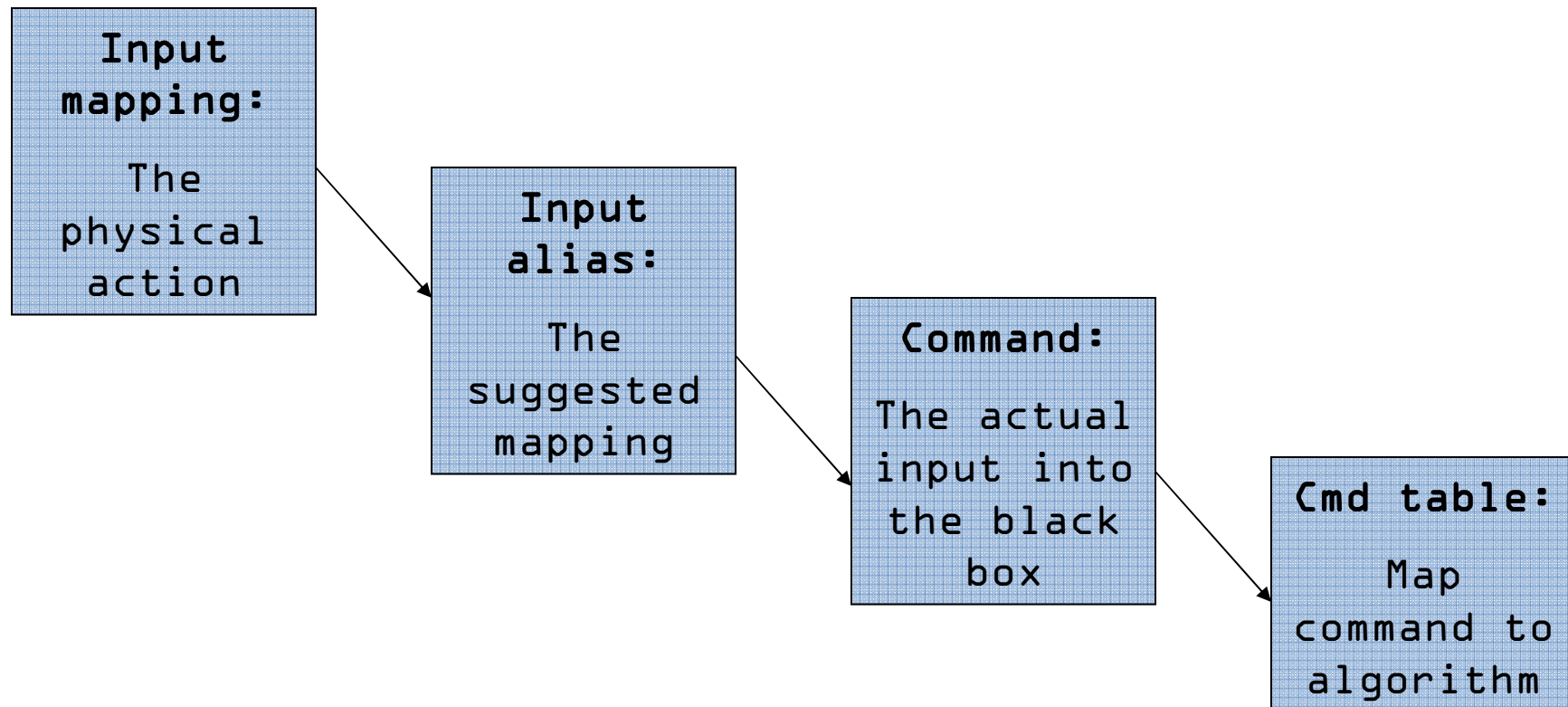


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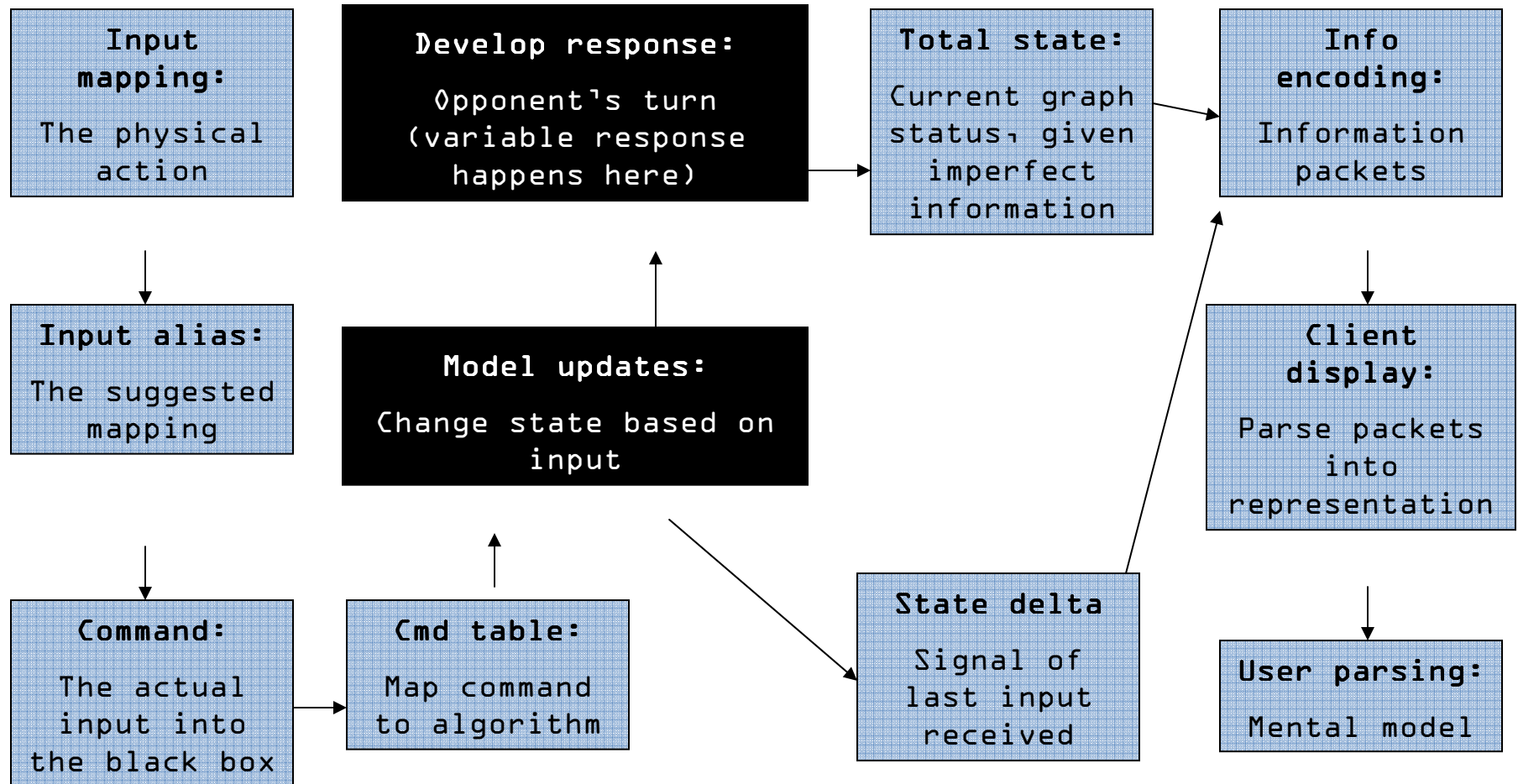


## › Controls

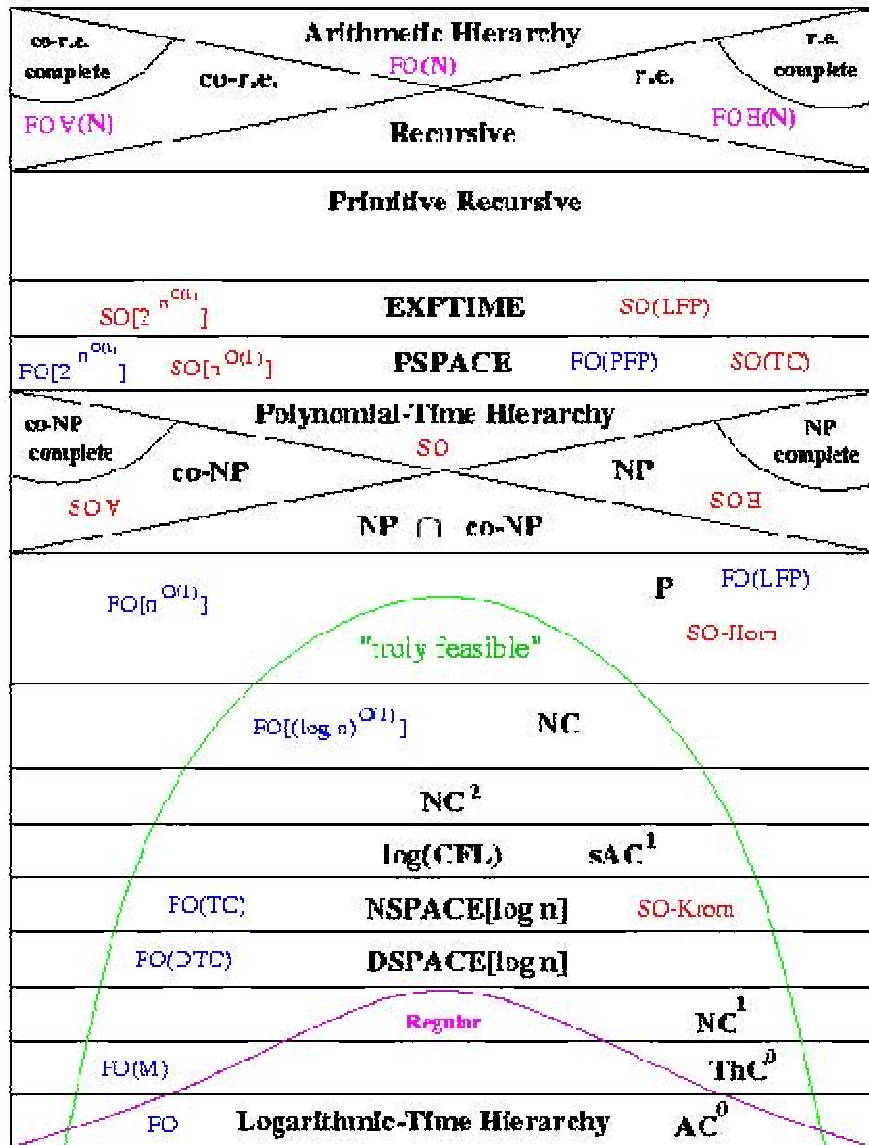
› Games are not their controls.



# > This is what games are like



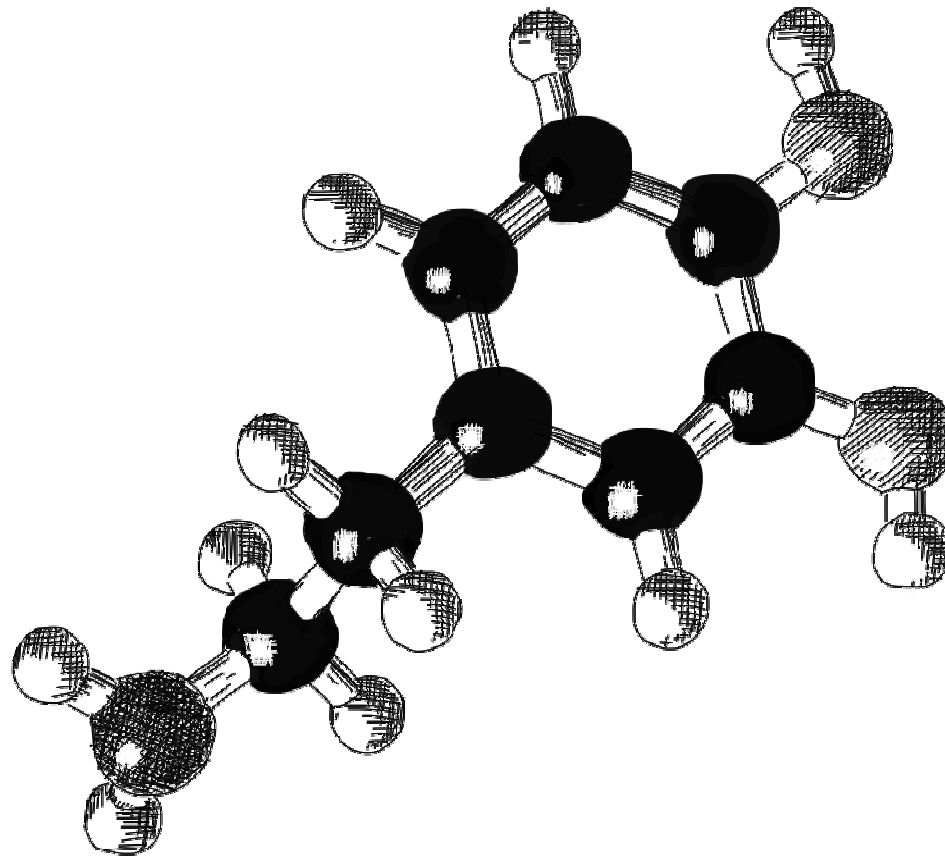
Games are largely math problems



Specifically, most games have NP-hard problems at their heart.

› “Everything” is math

› But the ways in which art, music, or writing trigger brain neurochemistry are different.



## › Neuroplasticity

- › All our experiences change our brains.

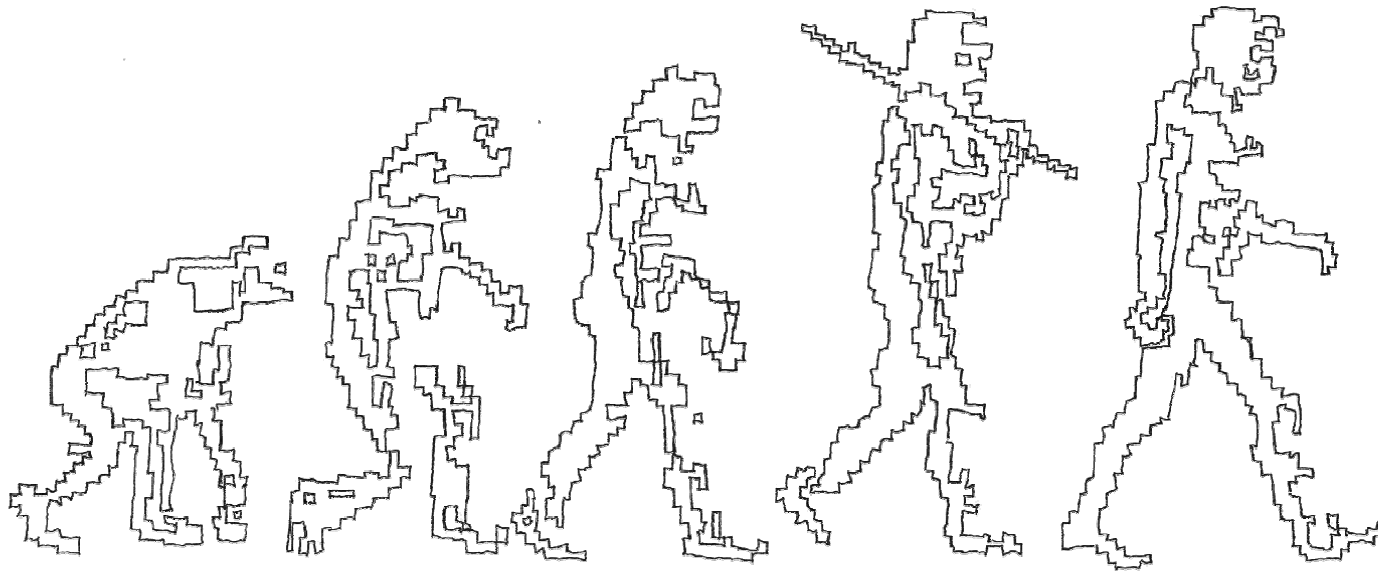




How Games Think = How We Think

## › Quantification

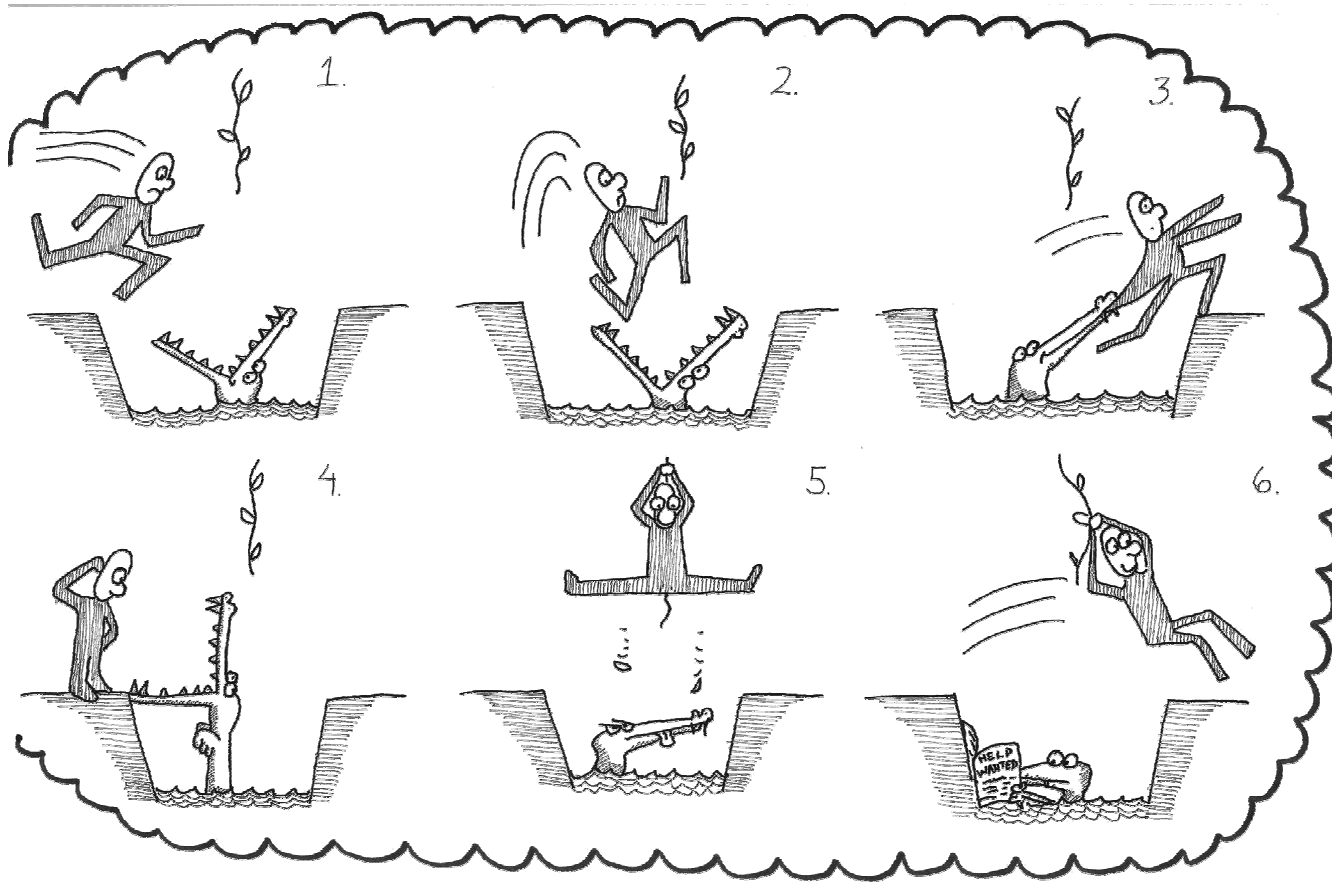
- › Games invite categorization, quantification, and quantization.
- › We used to experience the world in a more analog way.





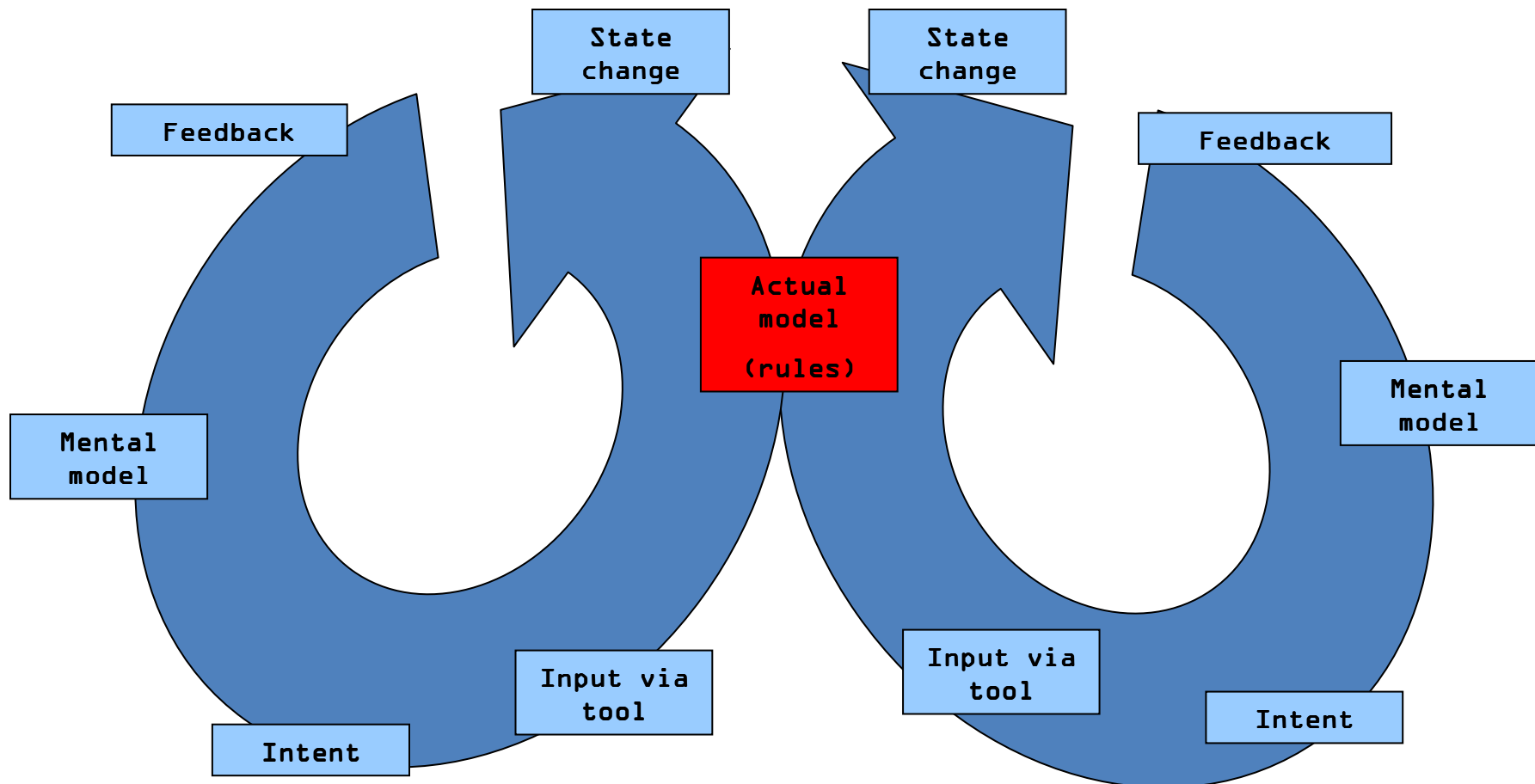
## Challenge

All games feature challenges to solve.



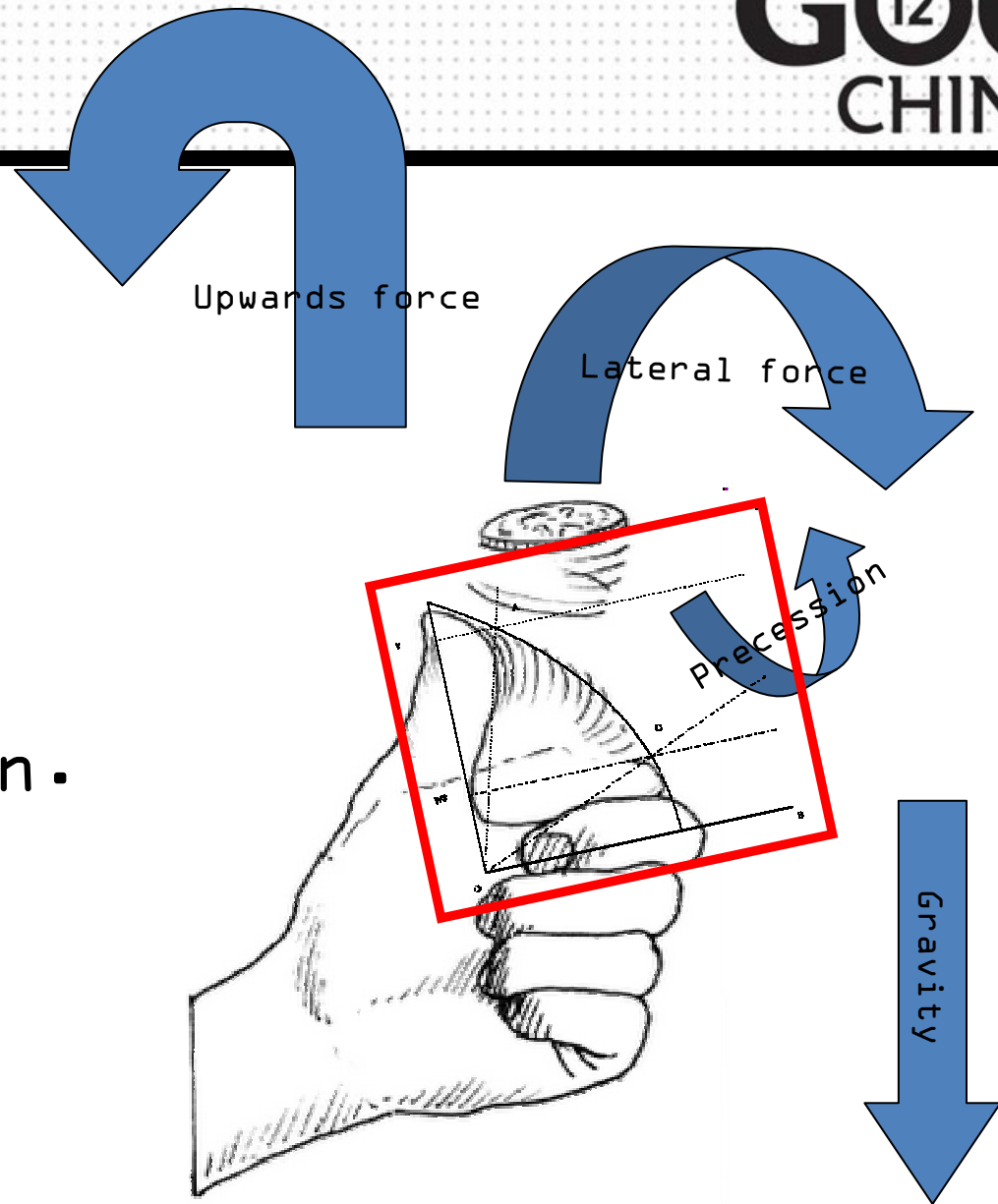
## › Implicit opponent

› Conflict has been a part of much art, but not all.



› Process & verbs

› Games are  
about action.



## › Goals

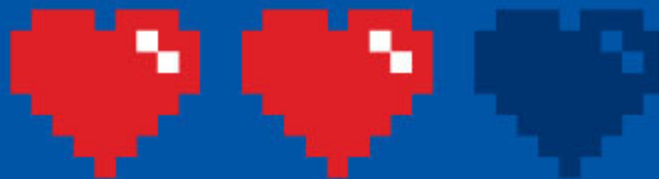
- › Goals are made extremely clear
- › In many games, there is only one way to get to them.



## › Failures and retries

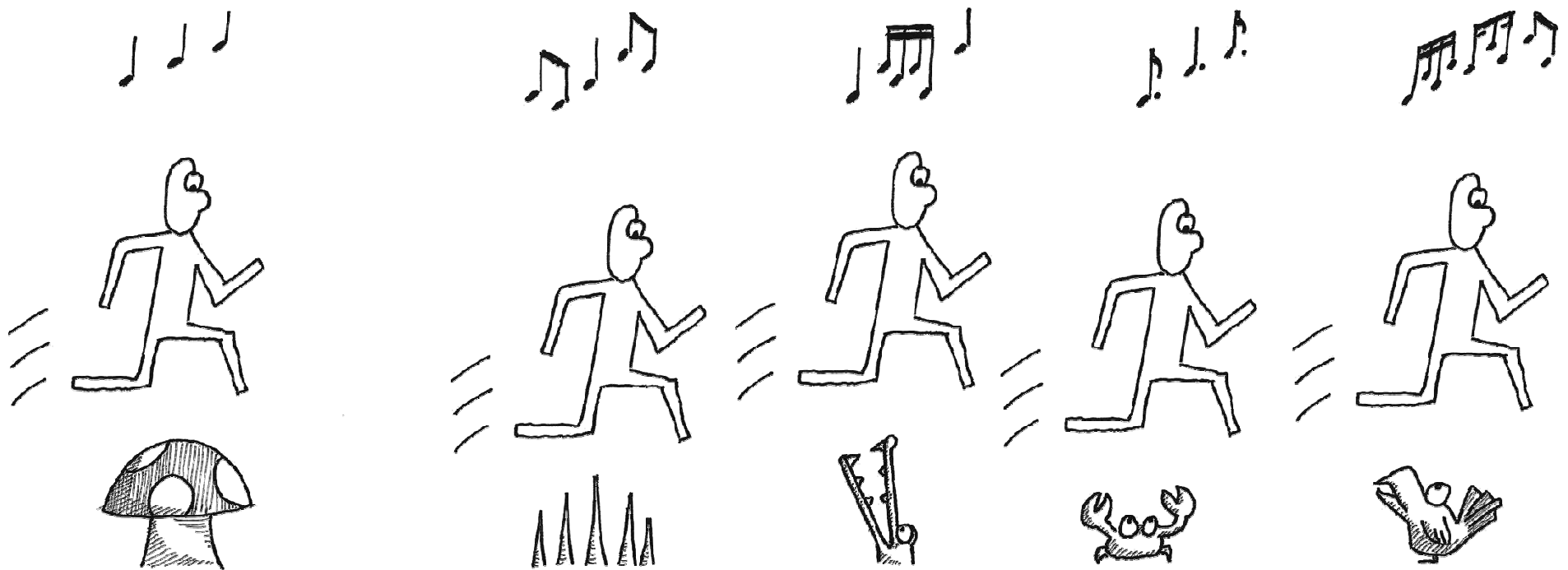
- › You can keep trying. There is always another match, another life.

Video games  
ruined my life.  
Good thing I have  
two extra lives.



## › Neophilia

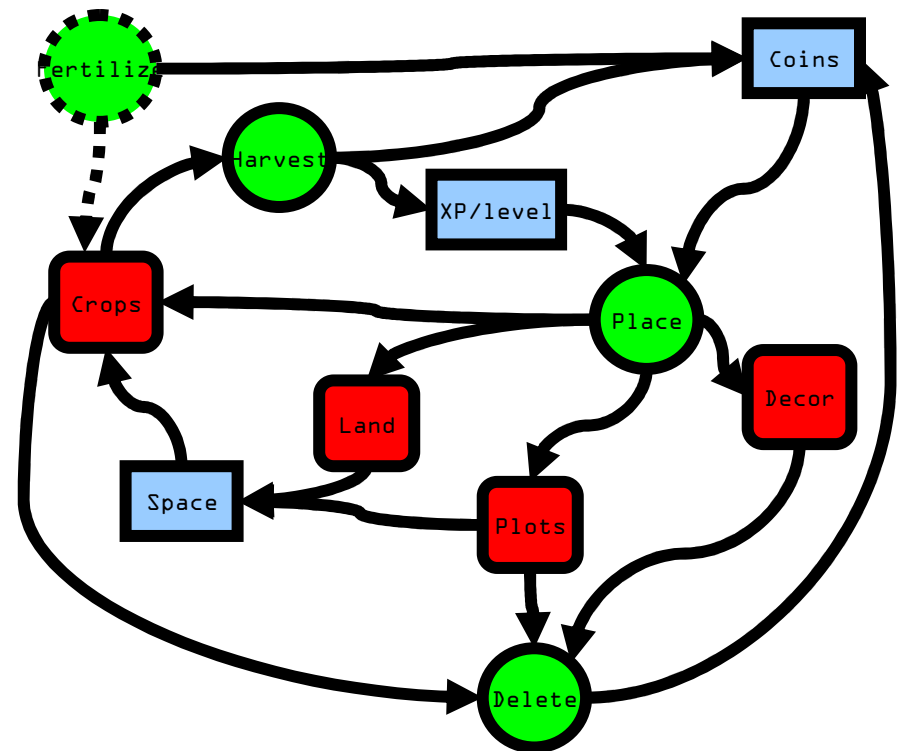
› Games tell us there is something new around the corner.



## › Systems

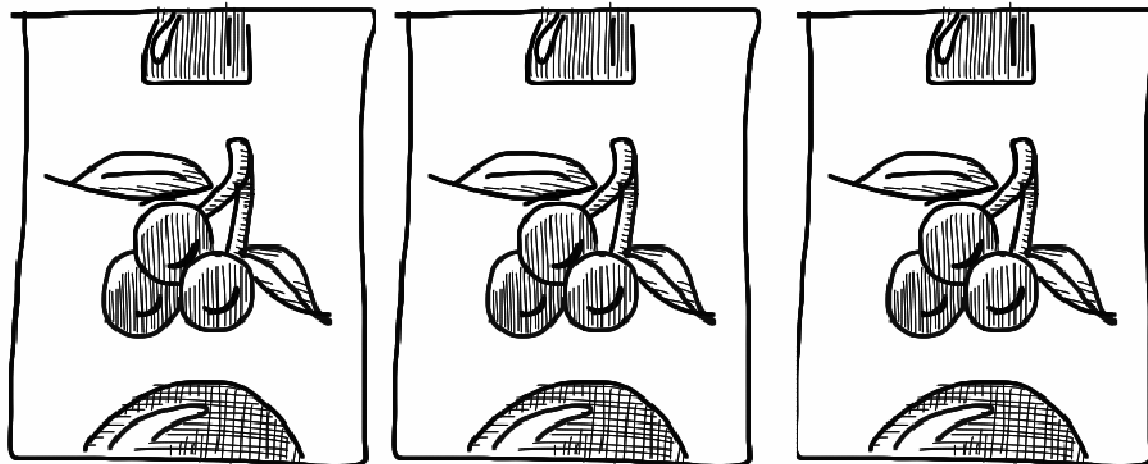
› Games are not about understanding the rules (though advanced players may).

› Instead, they are about understanding the system.



## ➤ Feedback

- As the systems change, they tell us how.
- But we are susceptible to feedback - our brain has bugs.

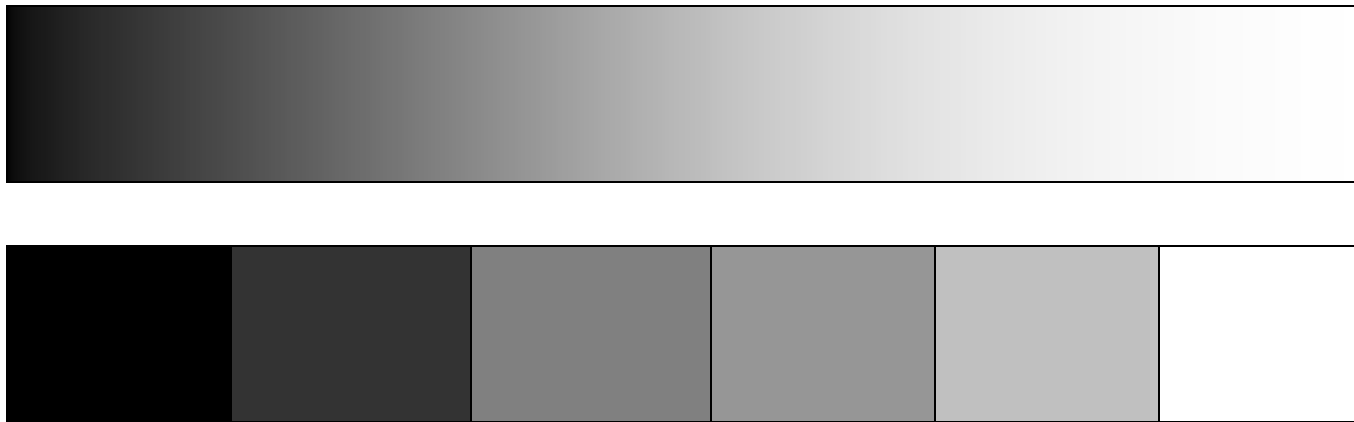




So how do games then make us think?

› We now have a generation who grew up with them. We can see.

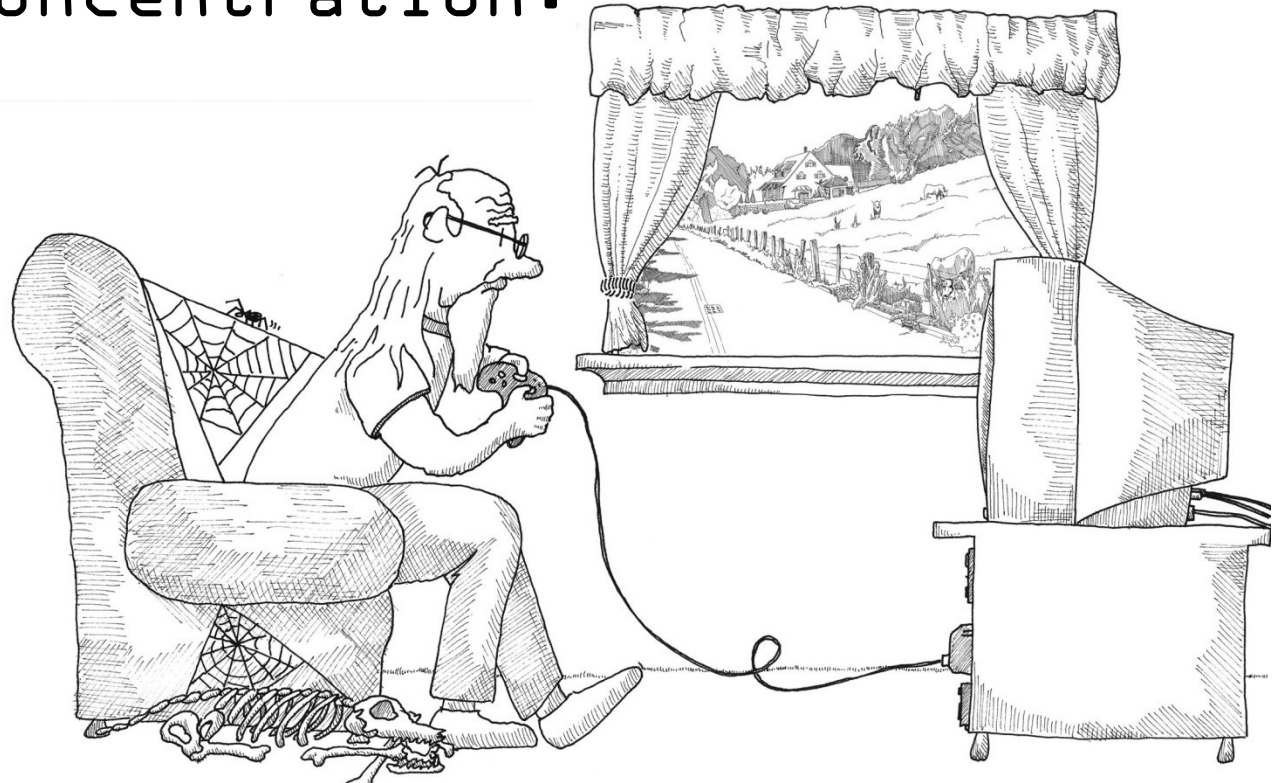
## › Reductionism



- › Games teach us to reduce and simplify, because they quantize.

› Ability to focus

› Because games provide constant feedback, they undermine certain types of concentration.



› They don't need to...

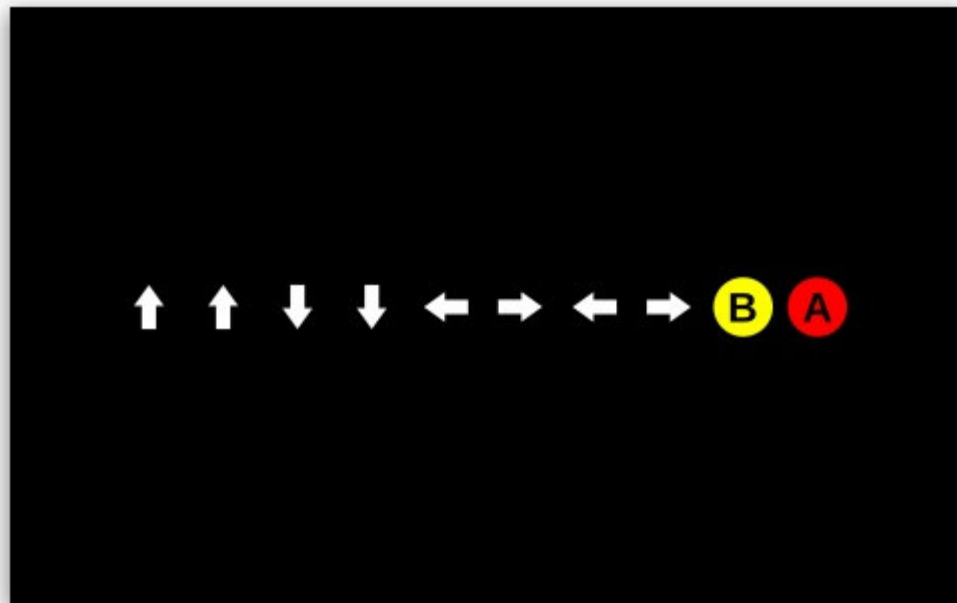


## › Following rules

- › Younger people entering the workforce seem to expect there to be rules for things that are usually unstated.

## › Cheating

- › There is also the notion that there must be a shortcut, “cheat code” or equivalent.



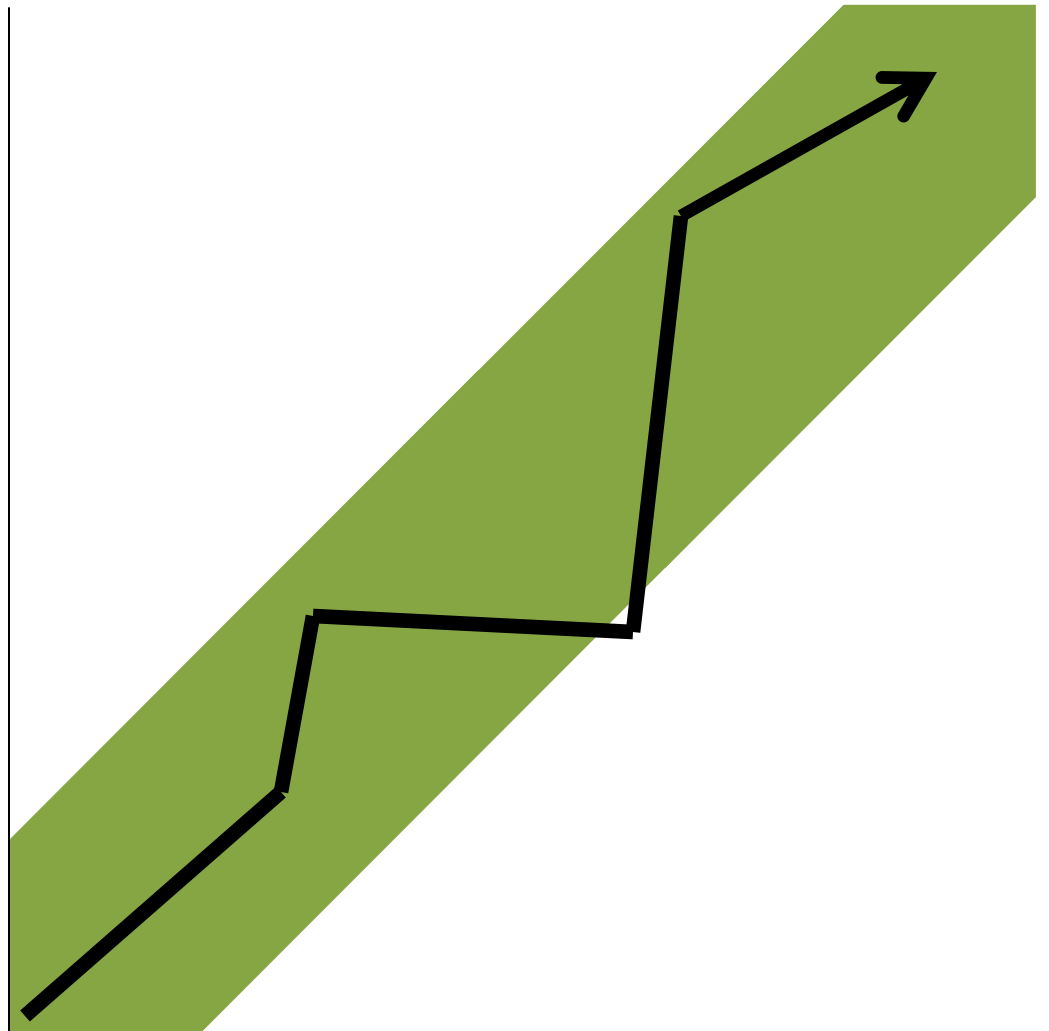
› Buying past problems



› In the microtransaction marketplace, we have taught people that you can buy your way out of problems.

## › Game probability distribution

› In games, we use a classic rising action curve for difficulty.





› Game probability distribution



› But the real world does not work this way.

➤ Game probability distribution

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## › Optimizing our customers

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- › We treat customers as aggregated data.
- › This is good business.
- › But it means that we can run experiments to see what works, without understanding WHY.
- › This can lead to ethically questionable choices.

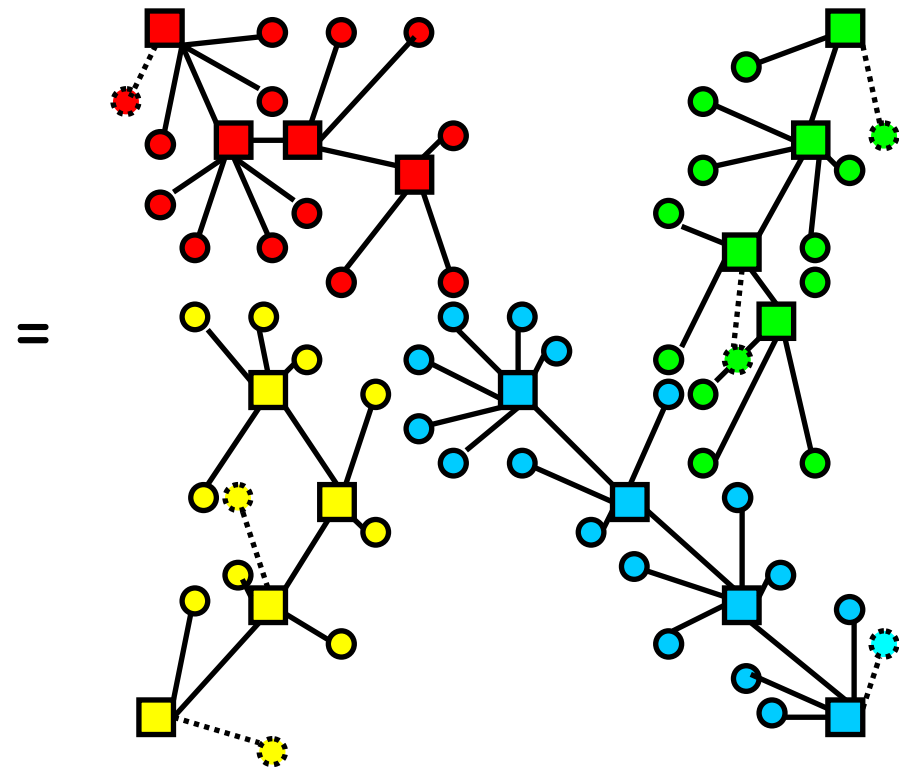
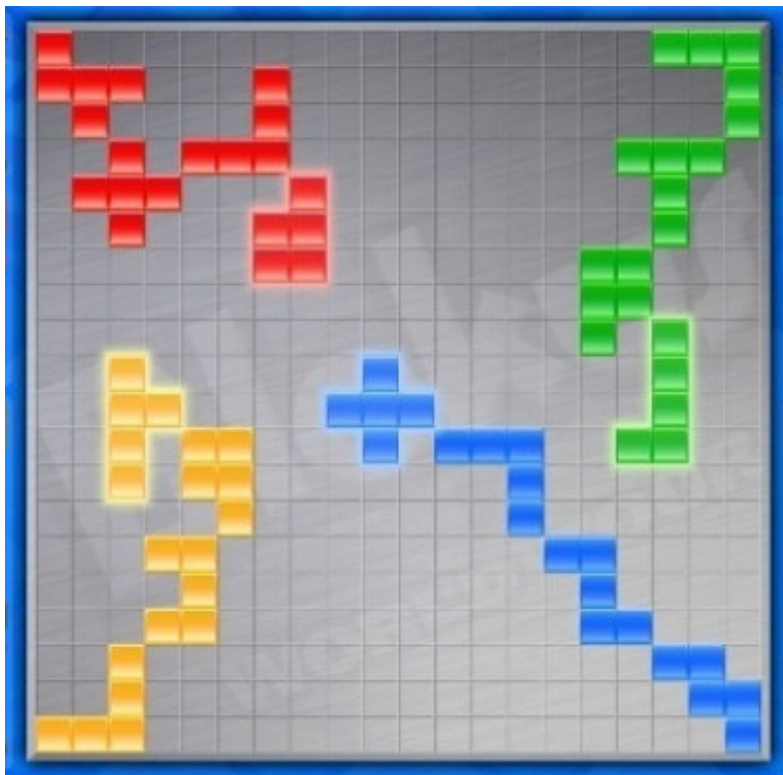
› The clockwork world & art



- › All of these effects sound like they may be negative.
- › But there is still scope for art and beauty.

› Positive effects

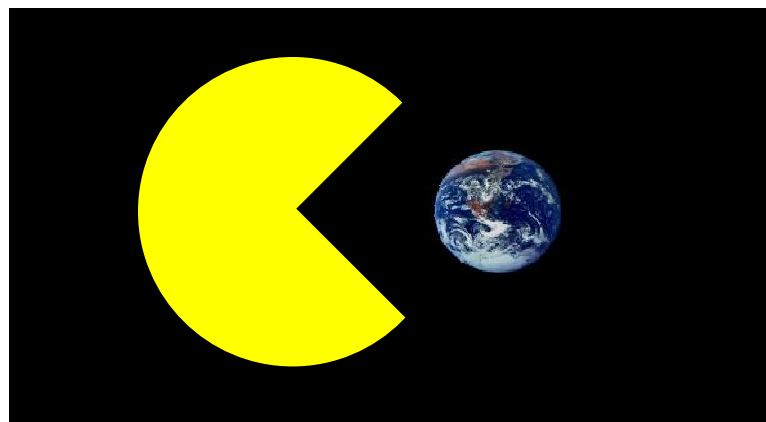
› People have gotten better at seeing the essential things that matter.





## › Teaching tractability

- › On the other hand, they also come in believing that every problem can be solved.
- › Games never give us impossible problems.
- › The real world sometimes does.



## › Happiness

- › The science of happiness tells us that games are good at the things that make people happy.

Gratitude

Using your strengths

Social connection

Generosity

Mindfulness: savoring your experiences

Striving for goals

Optimism

Don't reduce the bad - increase the good



› Game design is mind control



› It can be easy to think of this as just business every day.

› We have a tool of immense power.

› We are makers of joy.