

# Rules of the Game

## Five New Techniques from Especially Astute Designers

*Your host*

Richard Rouse III @richardrouseiii

*with*

Lisa Brown @wertle

Daniel Cook @danctheduck

Deborah Hendersen

Jesse Schell @JesseSchell

Brian Upton @bbupton



GAME DEVELOPERS CONFERENCE  
MARCH 18-22, 2019 | #GDC19

Hello!

## Rules of the Game 2015

With your host Richard Rouse III @richardrouseiii

|                                  |  |
|----------------------------------|--|
| Laralyn McWilliams<br>@laralyn   | "Make Emotional Connections"   |
| Chris Avellone<br>@ChrisAvellone | "Look for the Silver Lining"   |
| Dan Teasdale<br>@deliciousbees   | "Chunk in Threes"  |
| Kim McAuliffe<br>@EnameledKoi    | "Fight for the Little Things"  |
| Nels Anderson<br>@nelsormensch   | "Don't Try to Evaluate Your Own Game*" * But Only You Know What It Should Be |

## Rules of the Game 2016

With your host Richard Rouse III @richardrouseiii

|                               |  |
|-------------------------------|--|
| Lee Perry<br>@MrLeePerry      | "Pizzazz First, Polish Later"            |
| Emily Short<br>@emshort       | "Visualize Early"                        |
| George Fan<br>@TheGeorgeFan   | "Make Your Enemies Actually Different!"  |
| Liz England<br>@lizardengland | "Make Actionable Documentation"          |
| Michael de Plater             | "Make Your Game Tell Real-World Stories" |

## Rules of the Game 2017

With your host Richard Rouse III @richardrouseiii

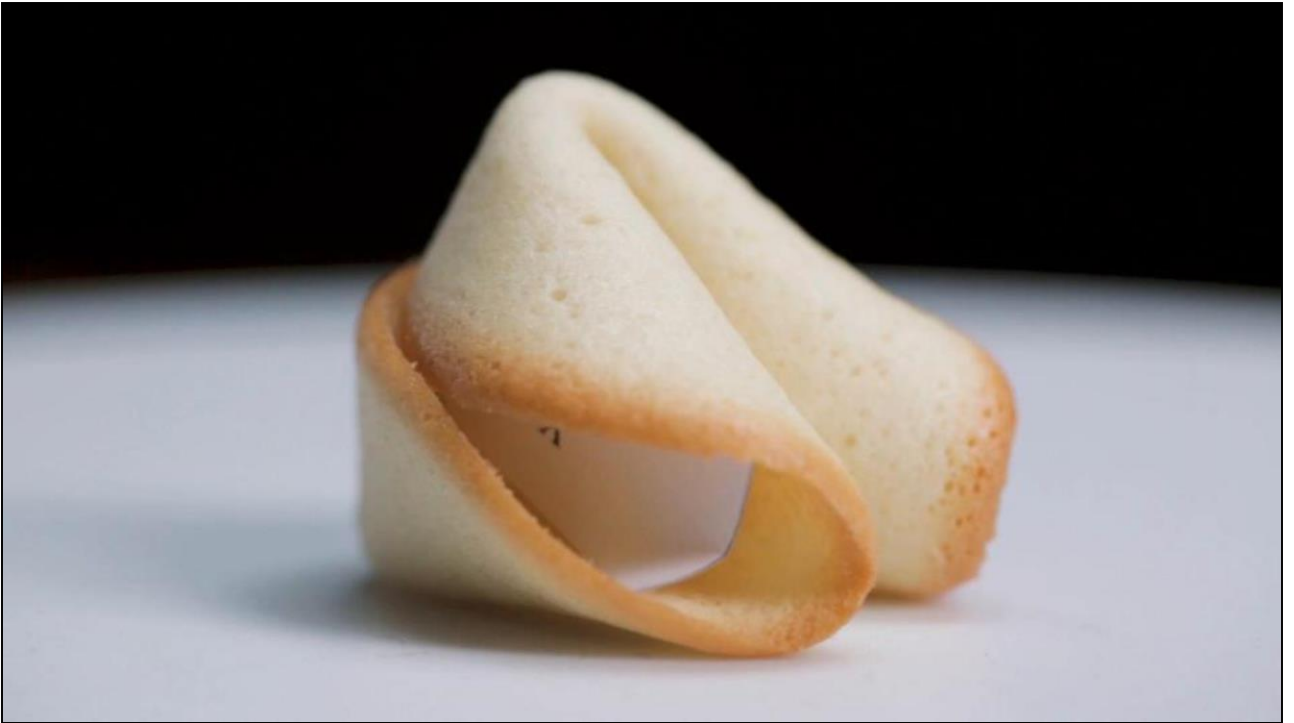
|                                   |                                      |
|-----------------------------------|--------------------------------------|
| Chelsea Howe<br>@manojalpa        | "Design by Fractal"                  |
| Damion Schubert<br>@ZenOfDesign   | "Free is the Default"                |
| Christina Norman<br>@truffle      | "Embrace Radical Constraints"        |
| Hal Barwood<br>www.finitearts.com | "Personify Problems"                 |
| Luke Muscat<br>@pgmuscat          | "Forget Rules, Make Goals Your King" |

## Rules of the Game 2018

With your host Richard Rouse III @richardrouseiii

|                                  |                                   |
|----------------------------------|-----------------------------------|
| Raph Koster<br>@RaphKoster       | "Start with the Sim"              |
| Erin Hoffman-John<br>@gryphoness | "Ask Players the Right Questions" |
| Soren Johnson<br>@SorenJohnson   | "Know Your Inheritance"           |
| Josh Sawyer<br>@jesawyer         | "Always Give 50%"                 |
| Stone Librande<br>@StoneLibrande | "Play It On Paper"                |

We've been doing this talk for a number of years, check out some of our earlier years editions – on the GDC Vault, many on YouTube.



What do we mean when we talk about game design rules?

A lot of times when people talk about rules they talk about what I call “fortune cookie” wisdom.

These are because they fit on a single piece of paper.

# **“Start designing the middle.”**

Here's a few examples of that fortune cookie school of design rule.

I've been saying "Start designing the middle" for a while - this is the idea that you should start making your game with the core of the gameplay. This is particularly true in a linear action adventure game. Make the middle levels first.

Then when you have that working, go back and build the beginning, the introduction- now you know the core you can make the perfect tutorial. And make it great, because it's what players play first.

Then make the end part of your game last because you will run out of time and it won't be perfect. But if any part of your level doesn't need to be perfect, it's the end, because fewer players will finish it than begin it.



**“Your game  
should have four  
difficulty levels.”**

**– Sid Meier**

Or how about this one

When I heard this I heard it attributed to Sid Meier (more on that in a minute) – and it’s one I’ve embraced.

**“Your game  
should have four  
difficulty levels.”**

**– Sid Meier**

**Easy  
Medium  
Hard  
Impossible**

It makes sense right? You have four, the 2<sup>nd</sup> one up from the bottom is default, most players will pick that, players who want something easier can go down one, players who want something more challenging but not stupid can go up one, and the true masochists or kids with too much time on their hands can go for the hardest (aka “Impossible”).

**“Your game  
should have four  
difficulty levels.”**

**– Sid Meier?**

**Easy  
Medium  
Hard  
Impossible**

When I first heard this someone attributed it to Sid Meier, but I'm not sure this is true.

# **“Your game should have four difficulty levels.”**



... because if you go back and look you'll see that the original Civilization had 5, Civ 2 had 6 and Civ 6 has more than you can count quickly, so maybe the source is wrong.

And obviously that works well for Civilization.

But I still think four difficulties is probably a good idea for your game, because your game is probably not Civilization.

**“Easy to learn,  
hard to master.”**

Or this bit of wisdom, one you have probably heard before.  
And it makes perfect sense.

Get the player playing fast, then give them lots of depth

**“Easy to start,  
hard to finish.”**

But as of late I’ve been thinking of it in these terms.

This is particularly true if you are an indie developer, working on a deeply personal project.

**“Easy to start,  
hard to finish.”**



... Like the game I am trying to finish right now. It's not easy.



Derek Yu has a great article about this where he talks about ways to help you finish your game.

<http://makegames.tumblr.com/post/1136623767/finishing-a-game>





Source: Derek Yu  
<http://makegames.tumblr.com/>

Even though sometimes I feel the opposite may be true.

Everyone remember to take care of yourselves, don't let your games finish you.



These are some examples of quick, fun rules that fit on a single piece of paper like a fortune cookie.



And if you want even more of these, you might want to look at a very popular Twitter thread I accidentally started last week, where I asked designers to fit a favorite game design rule inside a single tweet.

I've just retweeted this before the session so go check out my account to read more of these – lots of great insights in that thread.



But these are rules that can be explained quickly, like a fortune cookie – you break it open, read it and think, “My yes, that IS true.”

All you need to know about it is what fits on that piece of paper in the cookie.

And there’s something nice there, but without more depth behind it, it’s not likely to transform the way we design games.

I would say, with most fortune cookie design wisdom, for experienced designers, these pieces of paper tell us things we already know.

**“Tell Players What Winning Is”**

**“Use Real Humans to Drive Your Experience”**

**“Design Moments of Stillness”**

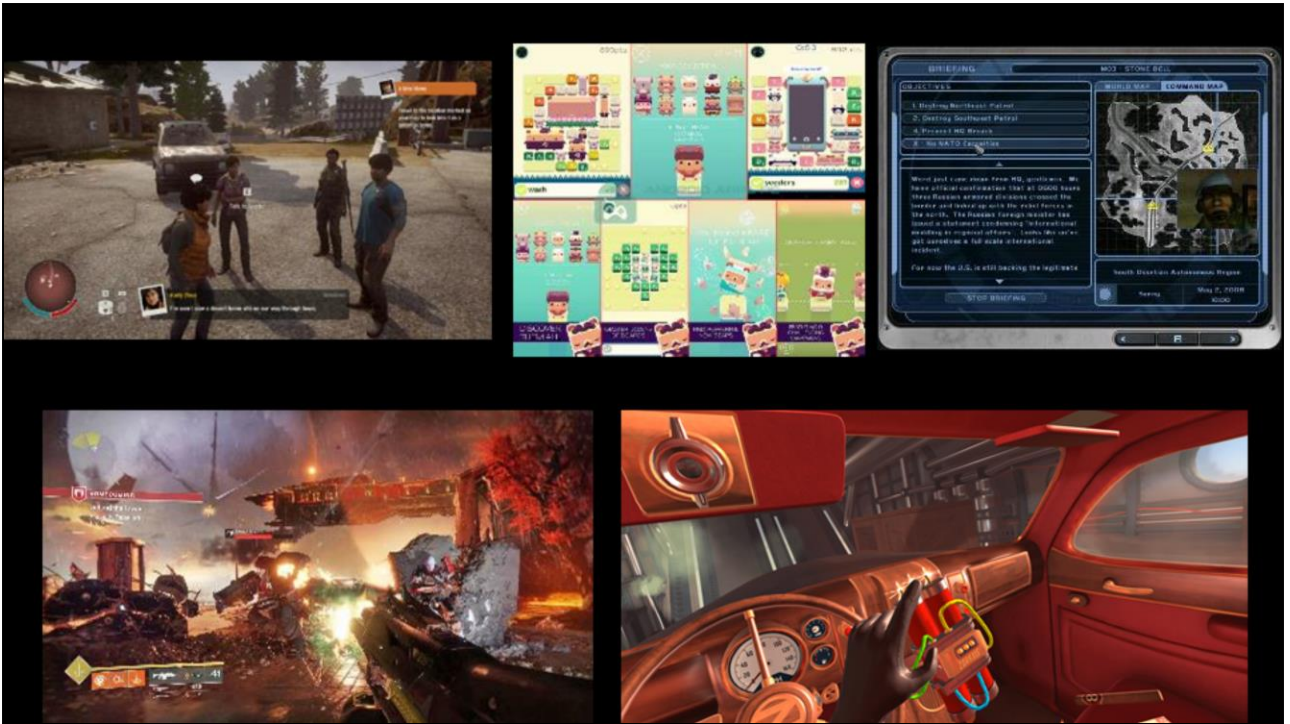
**“Manage Your Gameplay Pie”**

**“Obey the Story Stack”**

But what about rules that are more complex?

In this session we look at game design rules that are less obvious... That are maybe confusing when you first hear them.

That require, say, a good 10 minutes of explanation.



So today we're going to have five speakers who will focus on the less-obvious rules, designers who have worked on games you know, and games that maybe do some non-obvious things in how they were designed to work as well as they do.

# DEBORAH HENDERSEN

**Senior Design Researcher  
Microsoft**

And up first is Deborah Henderson. She is a Senior Design Researcher at Microsoft, where she has worked on everything Crackdown 3, Quantum Break to both games from the State of Decay franchise, where I had the pleasure of working with her. She specializes at looking at the intersection of design and narrative.

(full bio)

Deborah is a Senior Design Researcher and Studio Design Lead for Microsoft Global Publishing. She has worked on games as varied as Undead Labs' State of Decay (1 & 2), Double Fine's Happy Action Theater, and Remedy's Quantum Break. She is interested in the development of new methods, particularly mixed methods, and has lectured extensively on how to test narrative (both narrative usability, but also dial-testing for passive content). She earned a PhD in Cognitive Psychology at Stanford, where her research included questions such as: Does it matter if the book you are reading is fiction or nonfiction? (Yes.) Why don't adults have imaginary friends?

(Never mind, they do.) And, why are kids afraid of monsters under the bed, even when they know they are imaginary? (A lack of inhibitory control.)





When people think teaching, they tend to think controller – which yes, bit's need to be taught it turns out this is less important than you might think when it comes to getting players to that intended experience.

University of Washington: HCDE

Anna DeWitt

Carolyn Fiser

Ryan Guloy

Annie Hill

Todd Little

Matt Soave

Laurel Stone

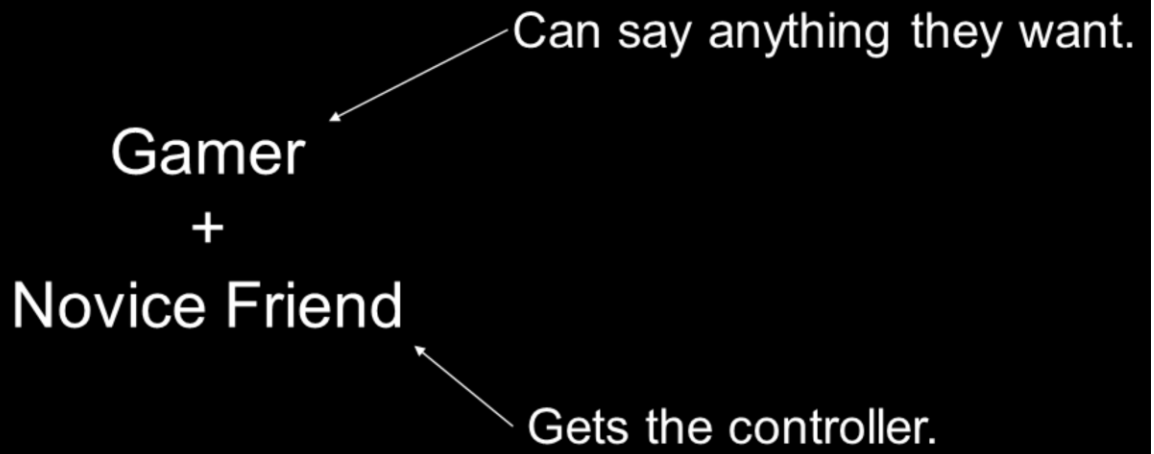
Eda Tuncer

What knowledge to gamers have?

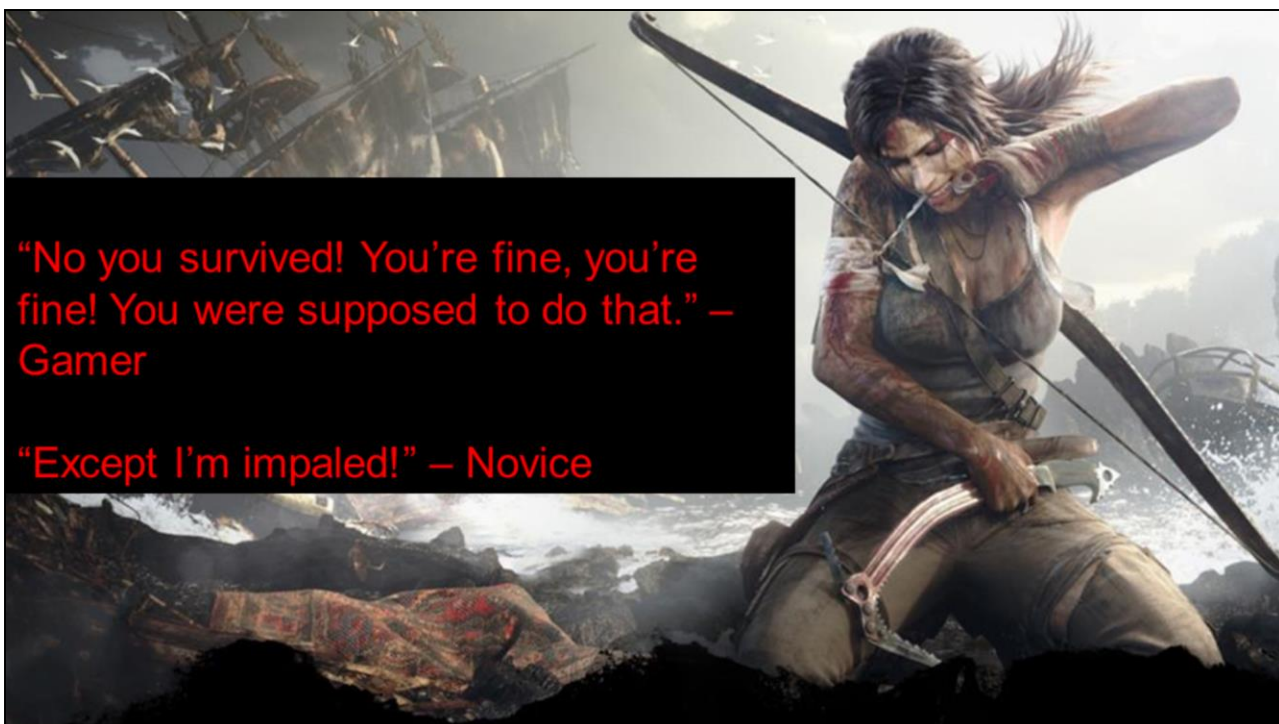
Gamer  
+  
Novice Friend

Get them to the fun.

This was the mandate – let us watch the knowledge transfer.  
What info needed to be transferred from the gamer to the novice?



These were the rules



“No you survived! You’re fine, you’re fine! You were supposed to do that.” – Gamer

“Except I’m impaled!” – Novice

What novices needed was to know they were making progress – and to be clear, games are frequently very very confusing on this matter.

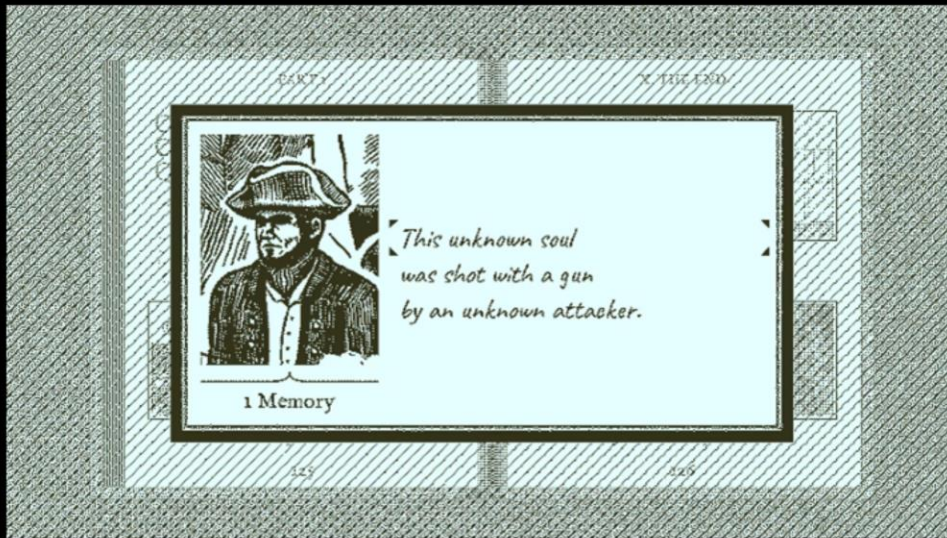
Don't just teach players **the mechanics**.

Which brings me to my rule...


Teach players **what winning looks like.**

This is my 1 rule

# The Return of Obra Dinn



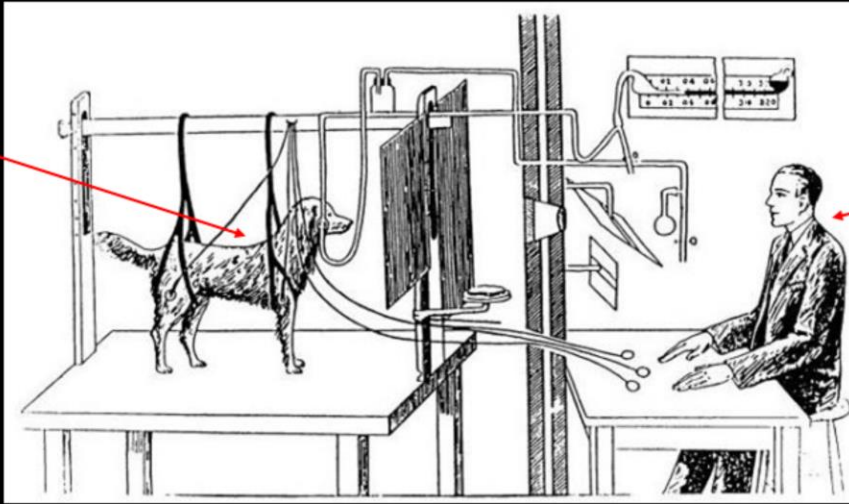




Well done.  
Three more fates correct.

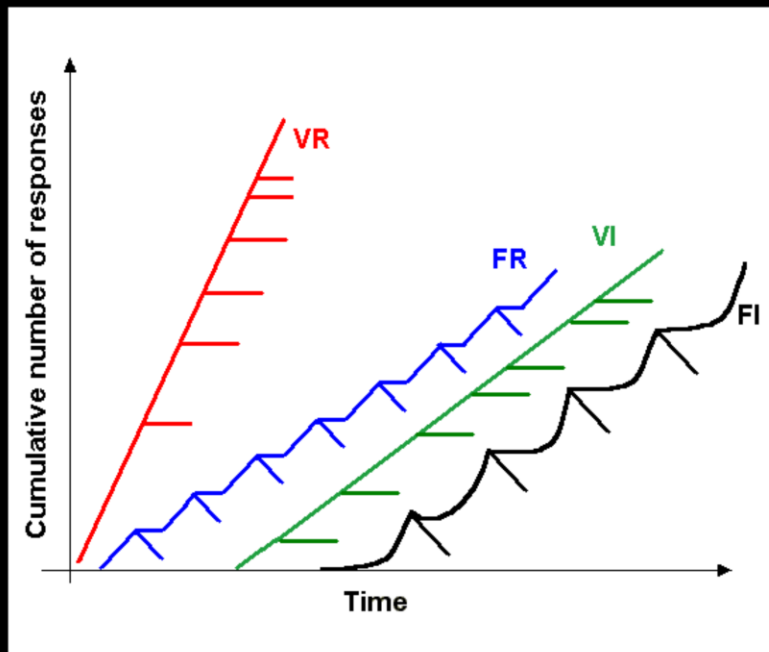
Designers thing: Oh that's easy... Feedback.

Gamer



Game Designer

Makes a ton of sense



2 problems

- Feedback comes after the fact
- These are about changing behavior, not about changing understanding



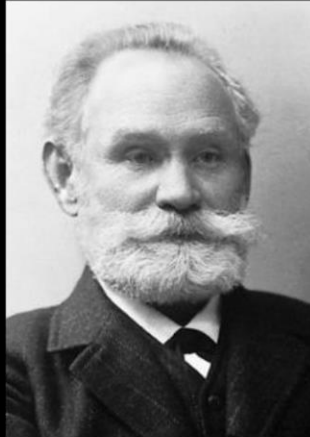
Bottom-up

pants

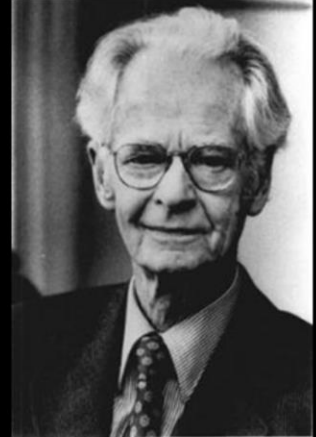
# Behaviorist



John B. Watson



Ivan Pavlov



B. F. Skinner

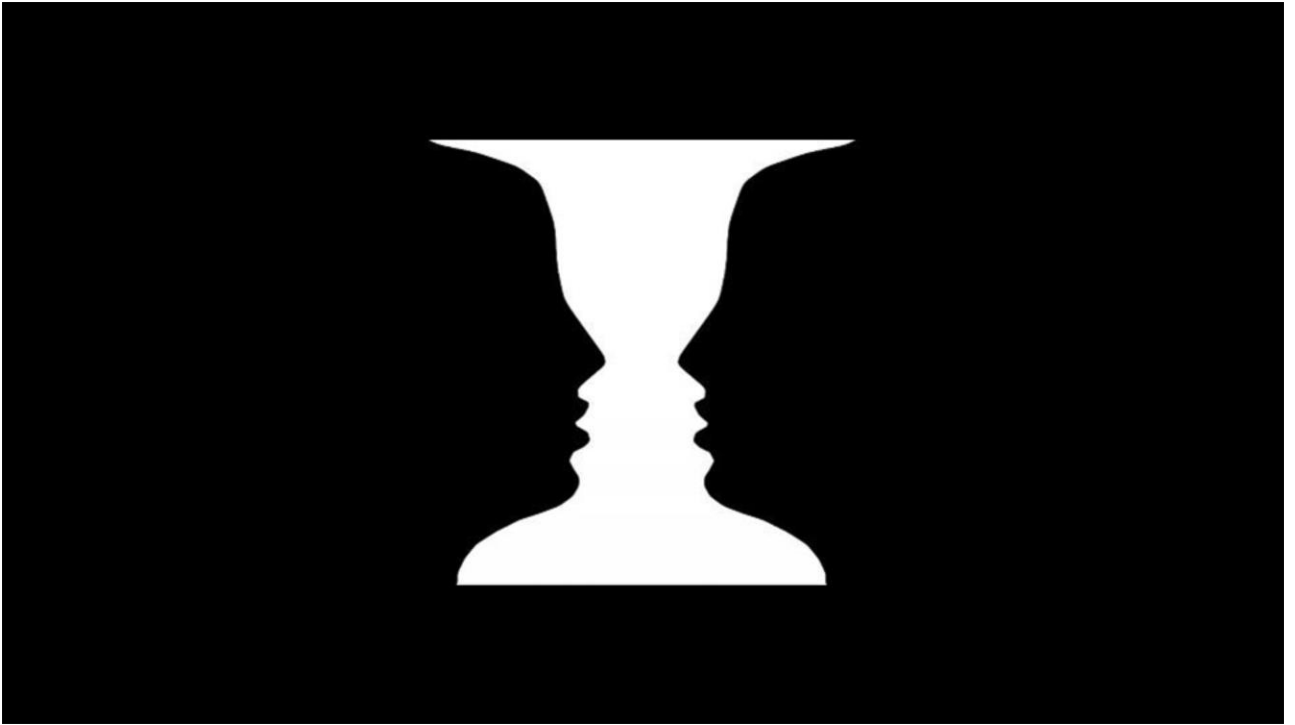
These are the people who built that dog contraption.

Despite being psychologists, they didn't believe their research told them anything about the mind – indeed sometimes they argued that was impossible. You had stimuli, and behavior you could observe.

Prop

\$\$\$

Experience

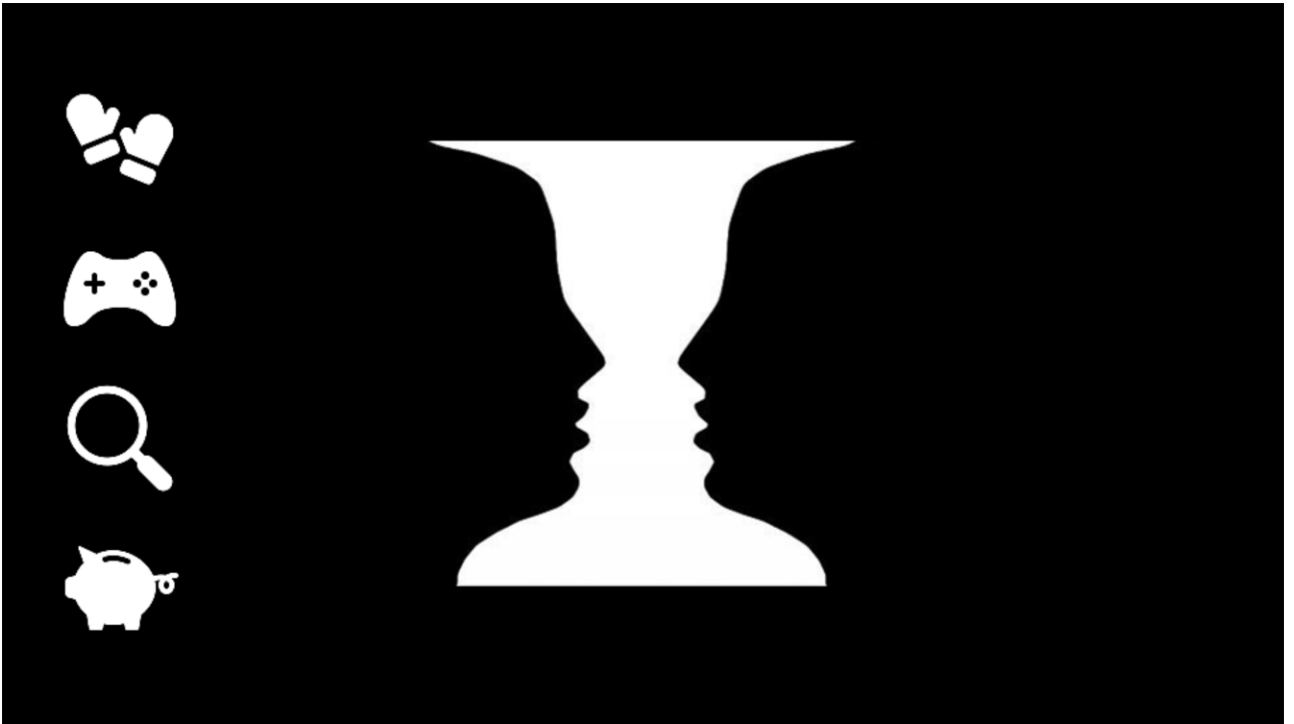


This is a Ruben illusion – face/vase illusion – ambiguous figure

Change what people see - change what comes before

- spoon, table, couch, fan, plate
- Lincoln, dancers, cowboy, weightlifter

Knowledge is what comes before – and leveraging knowledge is powerful



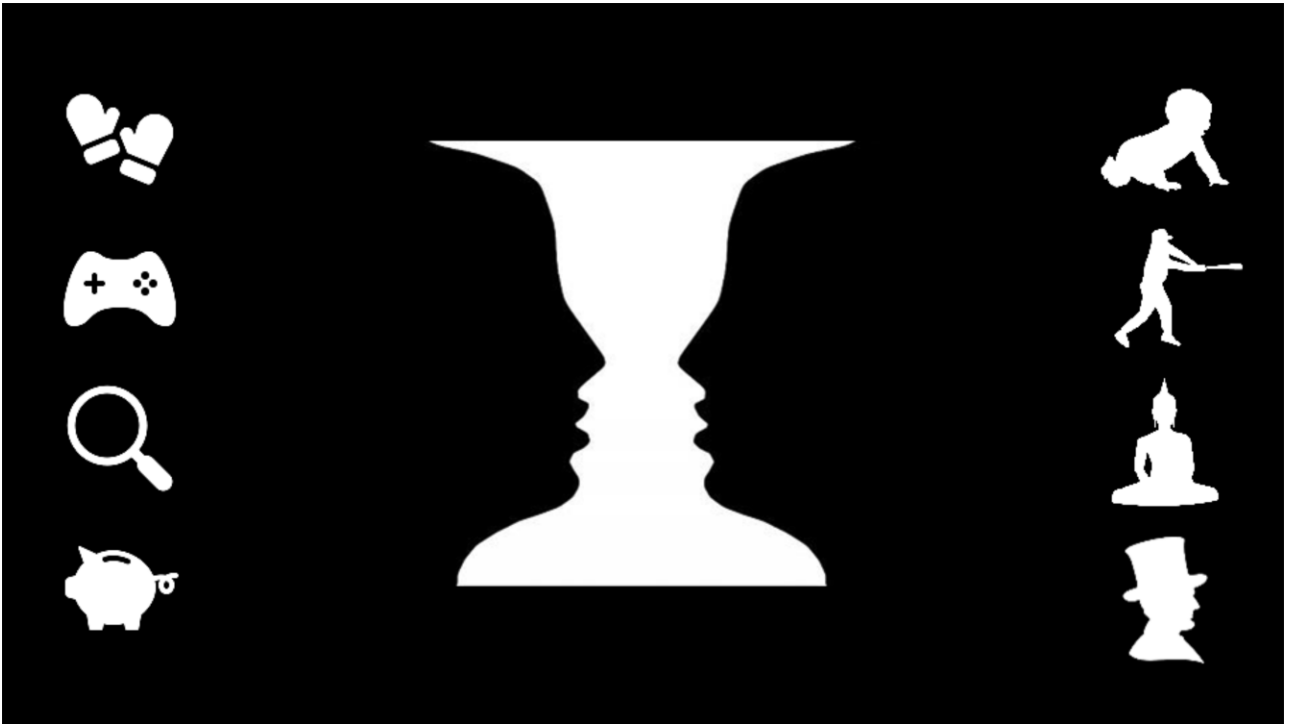
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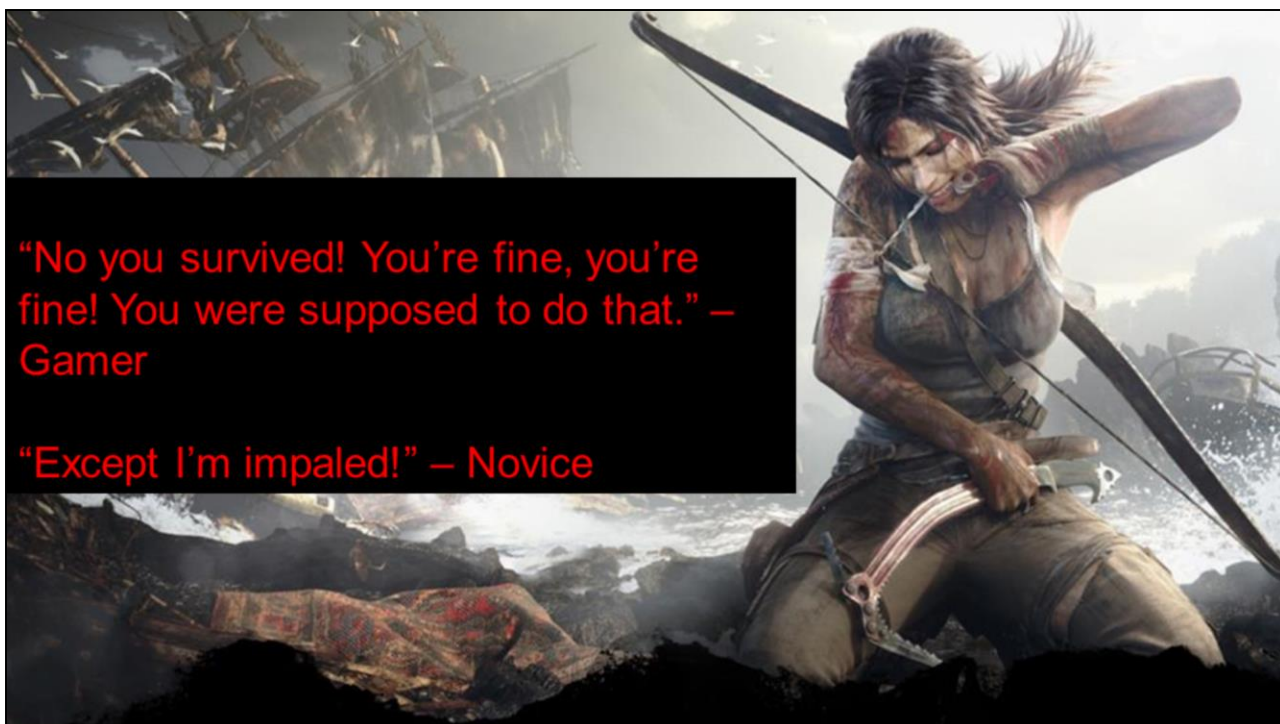


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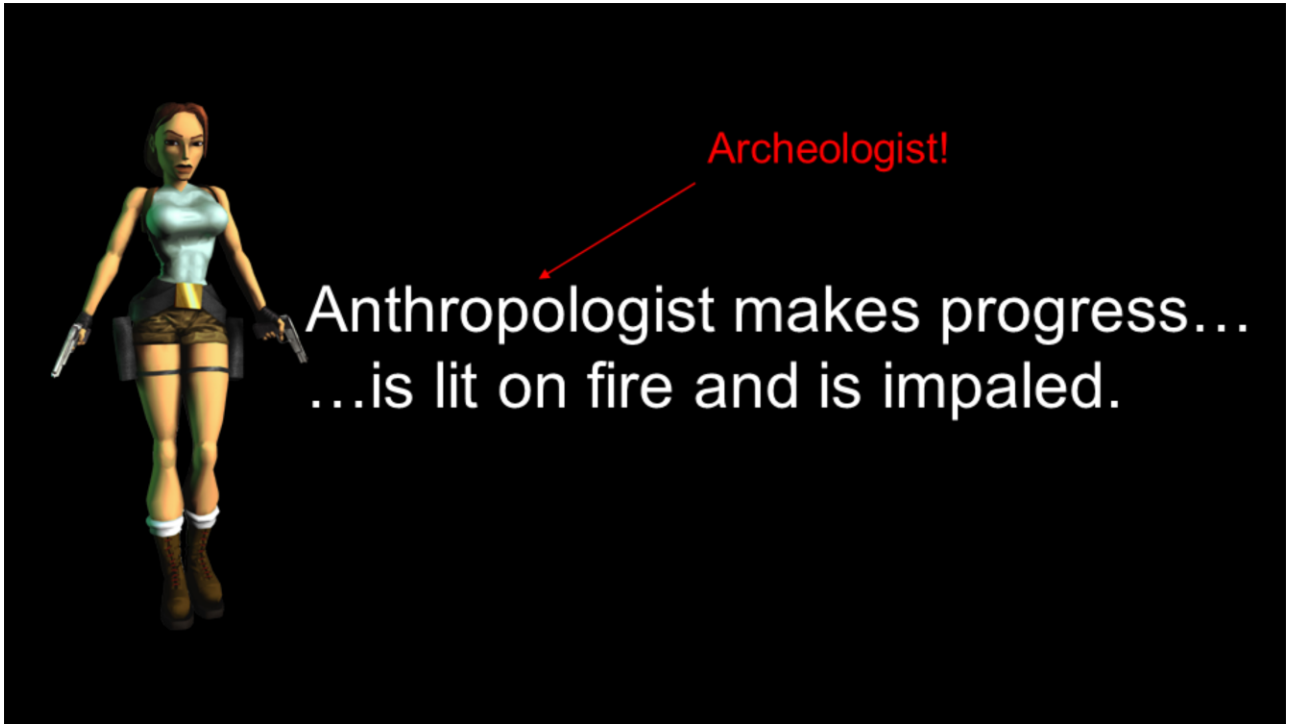
What novices needed was to know they were making progress – and to be clear, games are frequently very very confusing on this matter.



People come in with expectations

Anthropologist makes progress...  
...is lit on fire and is impaled.

When you have the right understanding, this sort of feedback  
can be very rewarding...



When you have the right understanding, this sort of feedback can be very rewarding...



Anthropologist makes progress...  
...is lit on fire and is impaled.

...but not when you are thinking of Margaret Mead.

If the framing doesn't match the feedback, particularly if the feedback is nonobvious, players won't get a sense of winning.

If you are trying to build a new thing, or bring new people to your game, this can be a real problem.





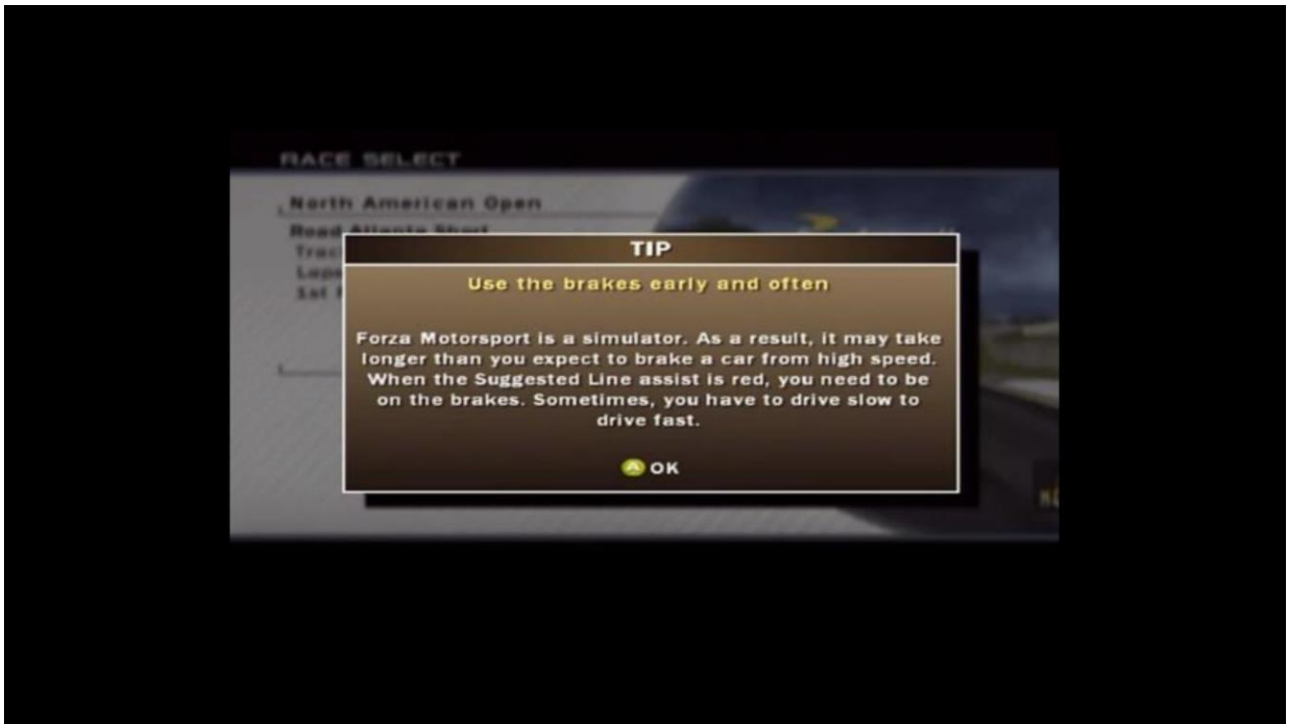






pants

Forza  
(2005)



Forza 1 had a problem – everyone hated the car handling. This was their solution – you’ll notice, they aren’t changing the mechanics.

Forza motorsport is a simulator.

As a result, it may take longer than you expect to brake a car from high speed. When the Suggested Line assist is red, you need to be on the brakes.

Sometimes, you have to drive slow to drive fast.



Forza 1 after the first race – does two things:

- 1) Frames as a simulation (not just an arcade racer)
- 2) Winning isn't just driving fast, it's not falling off the road.

Combine with matching feedback – the forza drive line – and suddenly you have a system that works.



Small Backpack

|  |  |
|--|--|
|  |  |
|  |  |
|  |  |

You can do this with individual mechanics.

Why can't I pick up ammo? It's so small I can't fit it into a backpack? Don't I have pockets?

State of Decay plays by the rules of the real world – you find food in convenience stores, gas at gas store, you don't find ammo in a toilet – it sets expectations that things behave logically.



Small Backpack

|  |  |
|--|--|
|  |  |
|  |  |

Pockets

|  |  |
|--|--|
|  |  |
|--|--|

Well I see my pockets are full – maybe I should go find a better backpack!



Finally, the last thing to remember is that as a game designer – framing is just another mechanic.

Here a reversal of framing is rather famously used to take the sensation of winning away – at first efficiency is the name of the game, then it turns out you're a Nazi.



Thanks!

# **DEBORAH HENDERSEN**

**Senior Design Researcher  
Microsoft**

# DANIEL COOK

**Chief Creative Officer**  
**Spry Fox**  
**@dantheduck**

Daniel Cook is the CCO at SpryFox, where he has worked on everything from Triple Town to Alphabear and is currently working on the COOP MMO Steambirds Alliance. And of course, if you have not already I also recommend his "Lost Gardens" design blog.

(full bio)

Daniel Cook is a veteran game designer who runs the popular game design website [Lostgarden.com](http://Lostgarden.com). He writes extensively on the techniques, theory and business of game design. He is the cofounder and Chief Creative Officer at Spry Fox. In his misspent youth, he was a professional illustrator and collected a degree in physics and an MBA. His innovative game designs range from puzzle to action to MMOs. Notable titles include Triple Town, Steambirds, Tyrian, Road Not Taken, Beartopia and Alphabear. He's currently working on Steambirds Alliance, a coop MMO involving birds in airplanes.

# Use **Real Humans** to Drive Your Game Experience

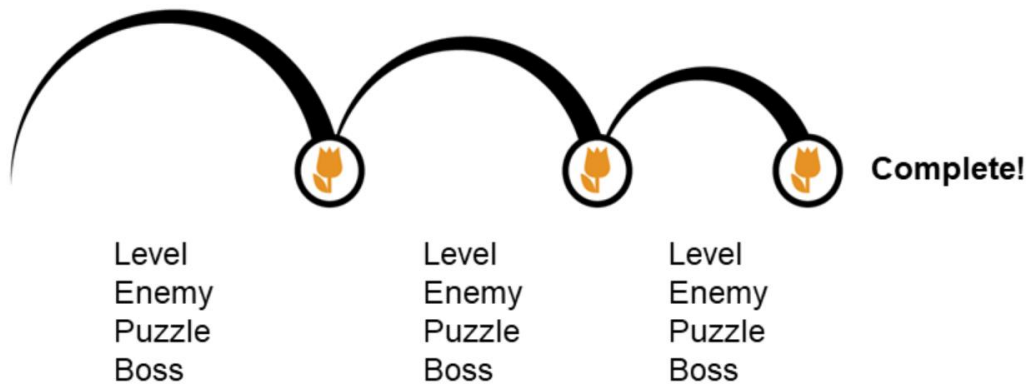
Daniel Cook  
Spry Fox

# Confession

I'm not really a **Content Creator**

Much of the work involved in making a modern game revolves around authoring of 'realistic' NPCs, AI or environments. This practice comes from a time where a computer game was defined as a single player's progression through a sequence of software managed data. You play a puzzle. You read a line of text. You move onto the next consumable content. In practice, the player experience is not so different from a book or a movie where the player consumes authored content.

Most games are about building and delivering **Consumable Content...**



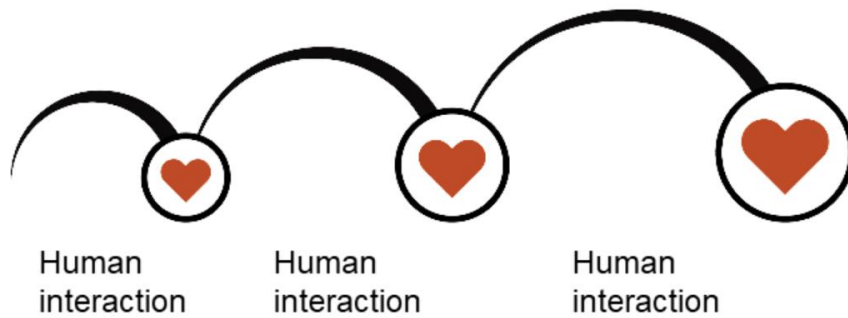
Which is sort of a problem. Since most games are about building and delivering consumable content.

# I design for a **connected world**

Always on internet  
Cheap cloud servers  
Popular multiplayer games

And I want to build games for this connected world.

What I want to do is have **Players** generate  
**Real Social Experiences**



Content treadmill



Um. What does **Real** mean?

## Spectrum of **Realness**

### **As-If-Body Loop**

Reading about being punched

### **Body Loop**

Being punched



What the heck does 'Real' mean?

## Spectrum of Realness

Reading about being punched

Being punched



**Story**

Simulated practice  
Simulated context

**Play**

Real practice  
Simulated context

**Social**

Real practice  
Real context

Digital interactions between real humans  
yield **real experiences**

*Real conversations*

*Real relationships*

*Real friendships*

*Real social groups*

Real Conversation. Real friendships. Real betrayals. Even when you are roleplaying, you form real relationships

Social relationships are some of the most meaning interactions we can have as humans. Your friends in a game a still real friends.

## Slow Down! **You can do real harm**

Social designers have an **ethical obligation to leave the player better off.**

- Protect players from anti-social players
- Prevent accidental harm (See Facebook)
- Encourage prosocial interactions



True for all games, but particular true for games that deal with real vs fantasy experiences.

<div>Icons made by <a href="https://www.freepik.com/" title="Freepik">Freepik</a> from <a href="https://www.flaticon.com/" title="Flaticon">www.flaticon.com</a> is licensed by <a href="http://creativecommons.org/licenses/by/3.0/" title="Creative Commons BY 3.0" target="\_blank">CC 3.0 BY</a></div>

# **Ex: Celebrity**

Content driven? Human driven?

Let's take a look at an example.

## Content driving the experience of Celebrity



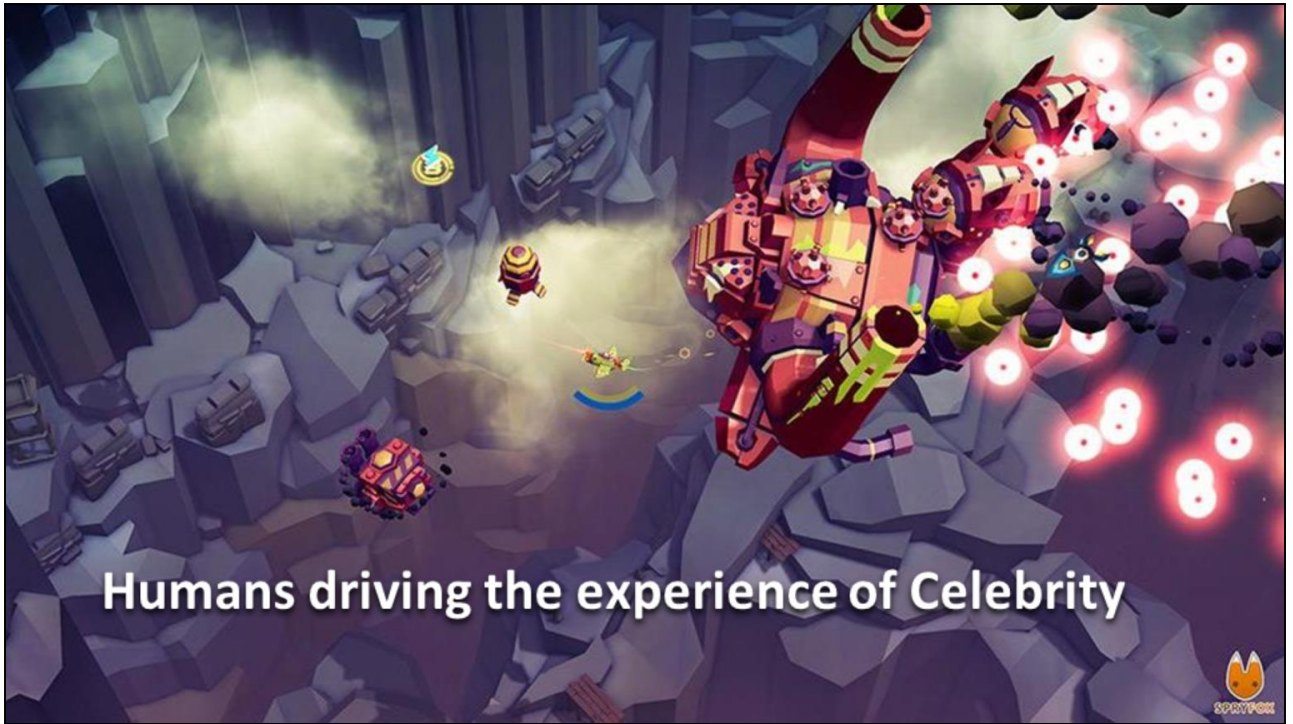
Here's Zelda Breath of the Wild. A single player content based game where you are a celebrity. Sidon is clearly writing Link fan fiction in his spare time.

## How content delivery games do Celebrity

- Narrative exposition from NPCs
- Themed objects. The Master Sword, etc.
- Themed scenarios. Casually hanging out with NPC royalty
- Virtual power. Numbers going up. You can kill a 1000 monsters.

Result: The **fantasy** of being a celebrity.





Steambirds. This also has celebrity, but when you author social systems, the result is quite different.

## How **social systems** create celebrity in Steambirds

- Start with social psych: Celebrity = A high status reference group
- Skill-based gameplay with large natural gaps in real skill
- Public indicators that you are high skill
- Promotion of celebrities: Reference them as players others should emulate

Result: **Real celebrity**. Other players flock to our in-game celebrities. Many attain a cult-like status.

This is a real experience of being a celebrity mediated directly by our game systems.

# The Process

for building human driven experience

1. Choose your Scenario
2. Identify your real humans
3. Decide what motivates humans
4. Build the system for the motivations

So this is my pattern.



I'm going to talk about a human-driven system we built for Beartopia, a village building game we made.



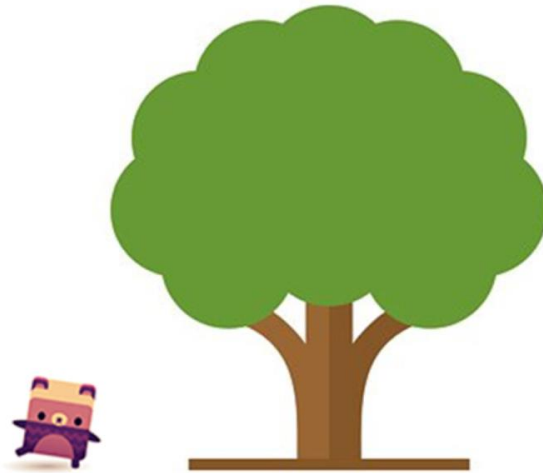
## 1. Scenario: Living Village

The scenario I wanted to replicate: The scripted living village from Ultima 7. Dozen or hundreds of villagers. Who wake up in the morning. Go to work. The blacksmith goes and make armor. Head home for dinner and goes to sleep at night. Lots and lots of content. How do move from a content driven system to a human driven system?



## **2. Identify Real Humans**

Human Players in Beartopia



### **3. What would motivate real humans?** **Shared Goals + Individual Constraints**

Why do people collaborate to create a shared village? They have shared goals.

They want to chop down this tree, but it is a big tree. And there's only so much daylight.





#### **4. What is the System?**

Each players records a 60-second time loop



## How time loops create my desired scenario...

- Async recording of a single player's path
- Layer player paths with all player recordings interacting with shared world
- Individual rewards for accomplishing group goals (chopping the tree)
- Social negotiation: What goals should we all try to accomplish?
- Idle accumulation of resources so efficiency matters.
- Emergent aesthetic outcome of a bustling village

What if players record a 60 second time loop for a day-night cycle. Now they have limited time to plan out their actions to chop down the tree. And they need to coordinate with all the other players who want to chop down that tree?

## Explore more: **Social Systems Design!**

### **Talk: Game Design Patterns for Building Friendships**

<https://www.youtube.com/watch?v=voz6S7ryWC0>

### **Friendship Formation**

<https://www.projecthorseshoe.com/reports/featured/ph16r4.htm>

### **Human-scale Social Systems**

<https://www.projecthorseshoe.com/reports/featured/ph18r8.htm>

### **Trust Spectrum**

<https://www.raphkoster.com/2018/03/16/the-trust-spectrum/>

There's a ton of great work on this topic. This will be up on the vault.

# Use **Real Humans** to Drive Your Game Experience

So that's my rule: Use Real Humans to drive your game experience

# **DANIEL COOK**

**Chief Creative Officer  
Spry Fox  
@danctheduck**

# BRIAN UPTON

**Chief Creative Officer**  
**Croquet Studios**  
**@bbupton**

Brian Upton was the Lead designer of the original Rainbow Six and Ghost Recon. He spent fifteen years as a senior designer at PlayStation, guiding external teams through every stage of production. He is the author of several books, including *The Aesthetic of Play* which is a personal favorite. And his *New* gig is Chief Creative Officer at Croquet Studios, working on an as-yet unannounced massively multiplayer world simulation.

Create Moments of Stillness

Keep the player  
interacting!







What is the player **doing** when the player isn't doing anything?

**Mechanics** = Things for the player **to do**

vs

**Situations** = Things for the player **to consider**







# What makes stillness playful?

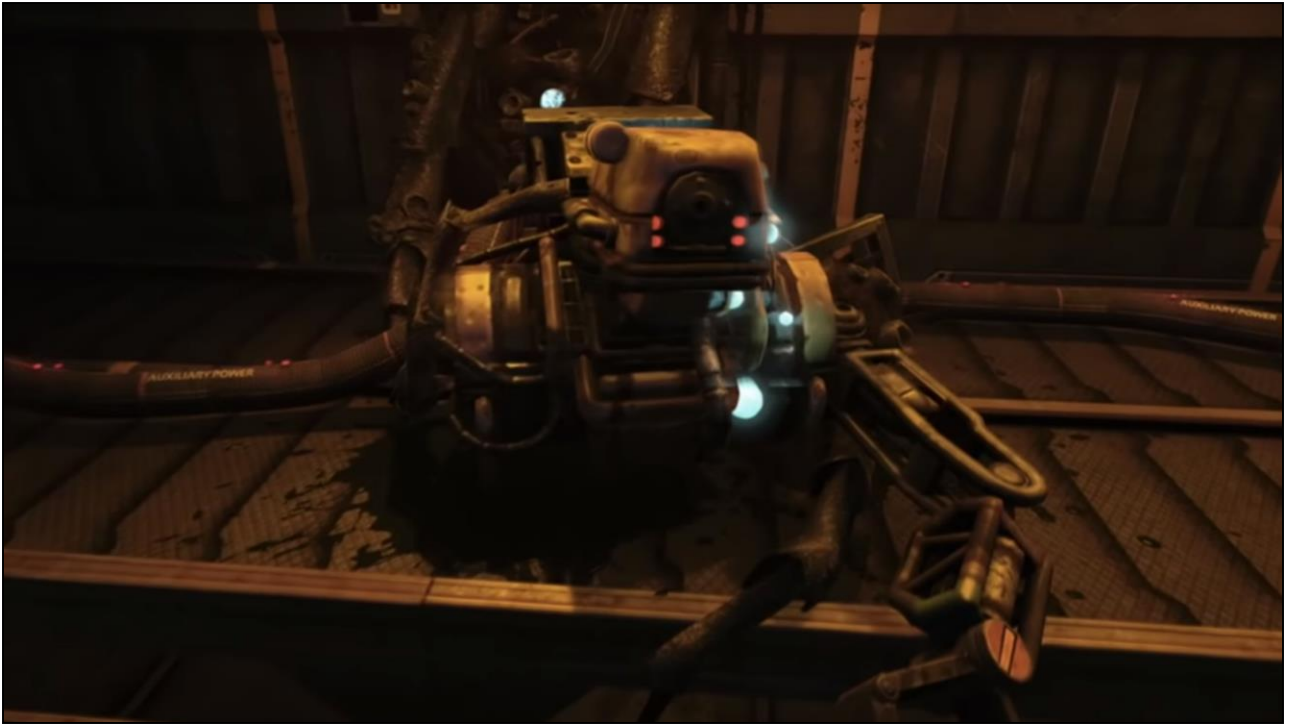
- Relative safety
- Control over exit
- Consistent rules
- Ambiguous outcomes
- Non-trivial predictions
- New Information













## Social vs Strategic Stillness



... vs Emotional Stillness

- Ally -

**Nugget**

You may discard Nugget to win a battle against a stronger monster.

Barrens of Rhum

## When to use this design pattern?

- Solving a puzzle
- Making a plan
- Staging an ambush
- Waiting on the game (or another player)
- Building tension
- Encouraging exploration
- Interpreting a narrative beat
- Responding to an emotional beat

# **BRIAN UPTON**

**Chief Creative Officer  
Croquet Studios  
@bbupton**

# LISA BROWN

**Senior Game Designer**  
**Bungie**  
**@wertle**

Lisa Brown is a senior game designer, currently on the Sandbox team at Bungie. Before that she's done everything from her own indie games to a academic residency at Harrisburg University to working at Insomniac games where I got to work with her briefly on Sunset Overdrive.

# DESTINY 2

## Manage your Gameplay Pie

BUNGIE

DESTINY  2

Hi I'm Lisa, I'm going to talk about creating exotic armor for Destiny 2 and my rule of managing your gameplay pie

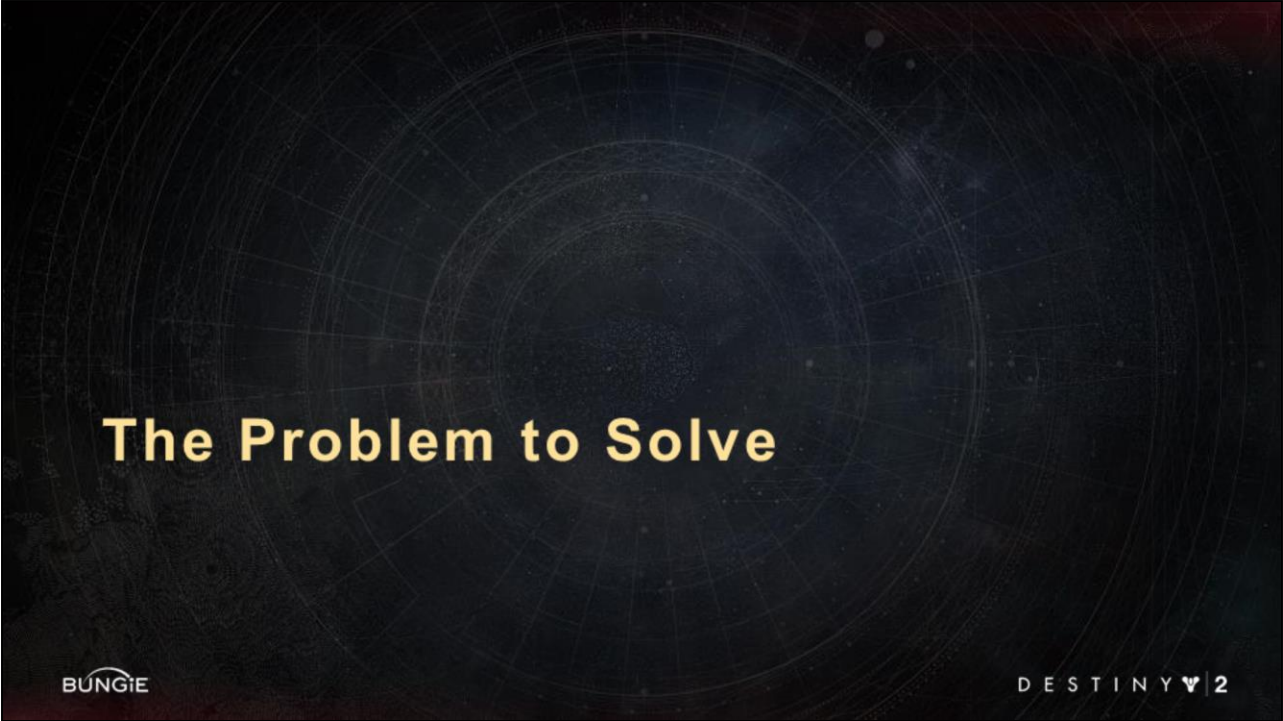




Exotics are Power Items in Destiny. They are rare and powerful weapons and armor with special gameplay perks. They are aspirational goals for players and a big part of Destiny's gameplay identity.



If you're not familiar with Destiny, here's an example to give you context for what an exotic is, this is the One-Eyed Mask, it's a helmet for titans. The way it works is when someone shoots you, they get marked, so you can see them through walls. And once you track them down and kill them, you get a damage buff and an overshield. So, pretty powerful, slightly game breaking. But we often talk about how wearing an exotic should almost feel like you're cheating.



# The Problem to Solve

BUNGIE

DESTINY 2

Every time we make a new exotic, weapons or armor, on the sandbox team, we have to solve this problem

# The Problem to Solve

How do you make an item that:

- ✓ Is Powerful
- ✓ Feels like Cheating
- ✓ Fuels Pursuit

How do you design an item that is powerful, so powerful in fact that it sort of almost feels like cheating, that's a desirable item which is fueling player pursuit

# The Problem to Solve

How do you make an item that:

- ✓ Is Powerful
- ✓ Feels like Cheating
- ✓ Fuels Pursuit

But also:

- ✓ Exists Forever
- ✓ Competes with existing exotics
- ✓ Competes with future exotics you haven't designed yet

BUT at the same time, an item that will exist in the game forever, it competes with all the existing exotics that you already have in the game, and it also must compete with all the exotics that you have yet to make in the future? Striking a balance between these two sides can be a big challenge.



## Why Not Turn Everything Up to 11?



BUNGIE

DESTINY 2

So you may ask, if exotics are SUPPOSED to be really powerful, then why NOT just make every one as powerful as you can make it!

But for Destiny, that's not the end goal for exotics

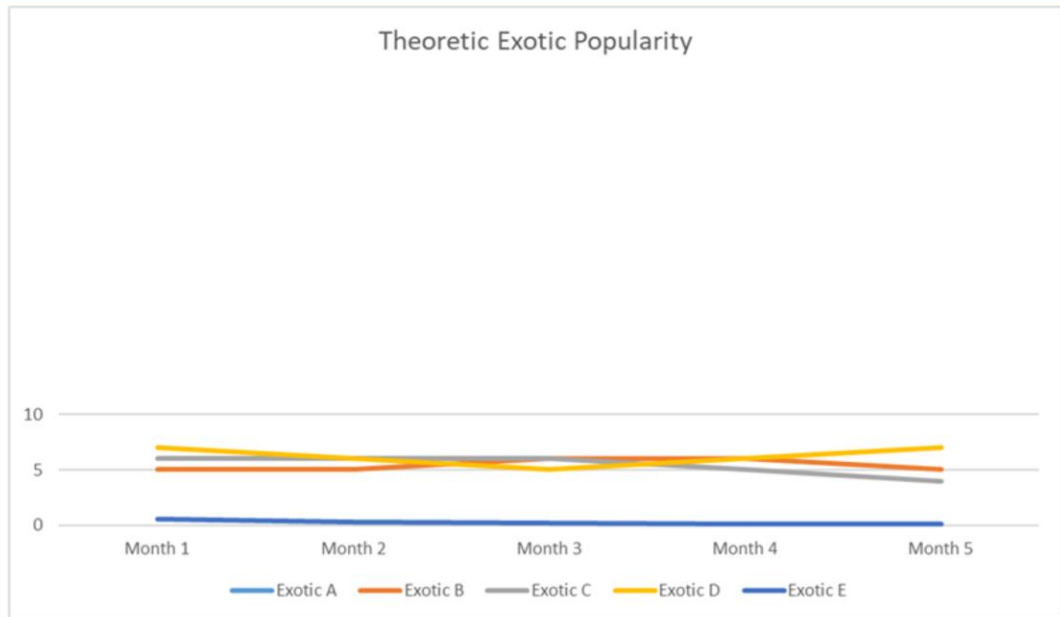
The background of the slide is a dark, textured image featuring concentric circular patterns, resembling a celestial map or a futuristic interface. The title "Meaningful Choice" is centered in a bold, yellow, sans-serif font.

# Meaningful Choice

BUNGIE

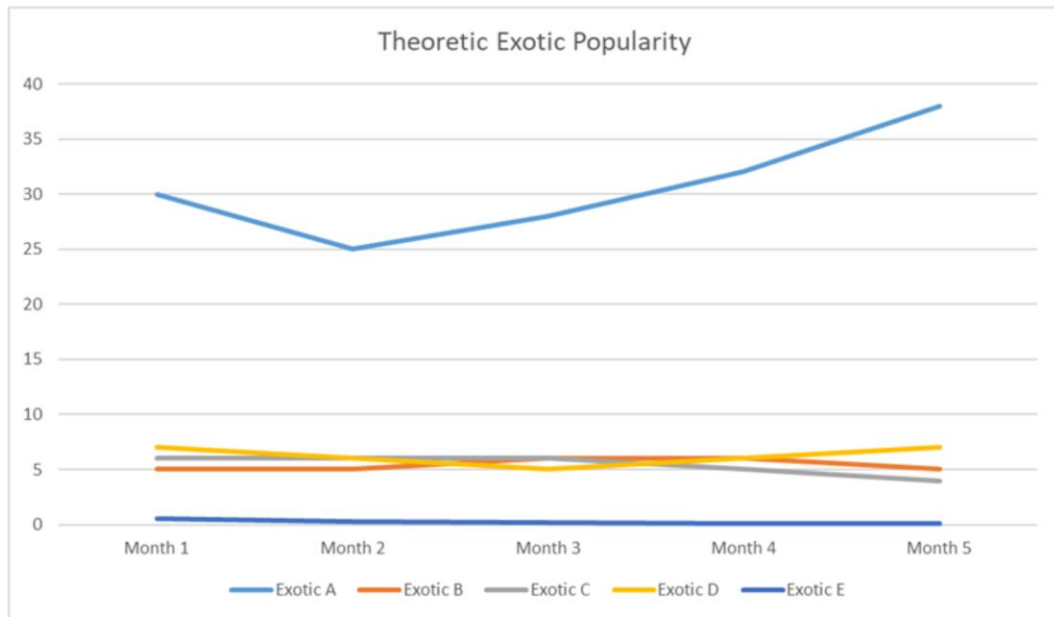
DESTINY 2

What we want is for players to feel like they have meaningful choice. And that is why exotics have to coexist with one another without overpowering each other



So if we get usage data back that looks like this, this guy at the bottom isn't doing very well. And that's pretty obvious





But if we get usage data back that looks like THIS, we also have a problem. This means we've probably put an exotic out in the wild that's basically a non-choice, and if that's the one exotic that EVERYone HAS to use, because you can't be viable without it, then we haven't created meaningful choice, and we've failed.

# The Problem to Solve

How do you make an item that:

- ✓ Is Powerful
- ✓ Feels like Cheating
- ✓ Fuels Pursuit

Meaningful!

But also:

- ✓ Exists Forever
- ✓ Competes with existing exotics
- ✓ Competes with future exotics you haven't designed yet

...but Sustainable!

And that's why we strive really hard to keep these two columns in balance with each other. Exotics have to be both meaningful and sustainable. We don't always succeed, but this is what we steer towards.



# Manage your Gameplay Pie

BUNGIE

DESTINY 2

My rule is all about managing your pie, which comes from an analogy that the sandbox team at Bungie often uses.



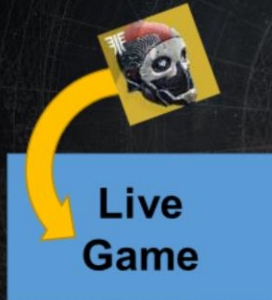
Imagine that your gameplay possibility space is a nice big delicious pie full of things for your players to enjoy



The pie consists of all the different mechanics and atoms in your game, and you generally have a known possibility space of what you can do in your game and what you're working with when you add power to it



When I ADD power to the game...

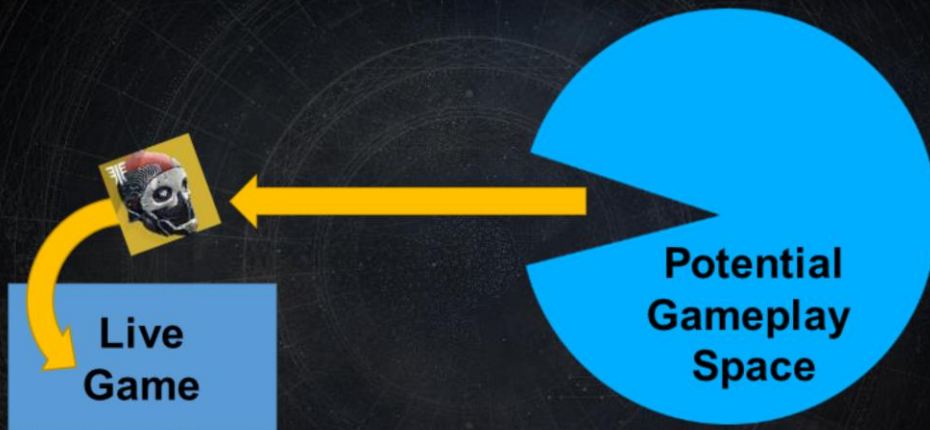


BUNGIE

DESTINY 2

Whenever I ADD power to the game in the form of an exotic armor, it's like I'm serving a slice of that gameplay pie to my players.

When I **ADD** power to the game...



I am **REMOVING** from future potential gameplay space

But because Destiny is a persistent live game, when I add that exotic I am REMOVING from the gameplay space I have to work with for the future. It means that when it comes time to make the next exotic for the next release, we've got a little less pie to work with.

# Examples!

Conserving Pie



Stretching What you Have



For my examples I'll cover the two sides of how this rule manifests

One is conserving your gameplay pie so you don't dish everything out at once and not have enough for later. You can't be SO conservative with that gameplay space that you serve skimpy pie pieces, though

So the second example will be all about stretching gameplay atoms to get the most use out of them.

[HannahKitti](#)

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## Example 1 – Conserving Pie

On Hunter Melees

BUNGIE

DESTINY 2

## Melee Abilities in Destiny



BUNGE

DESTINY 2

In Destiny we have melee abilities in addition to the standard FPS punch. For example

When you punch and your melee energy is full, you shoot lightning out of your hands, or you throw a knife instead of punching, or you punch someone and they explode, stuff like that



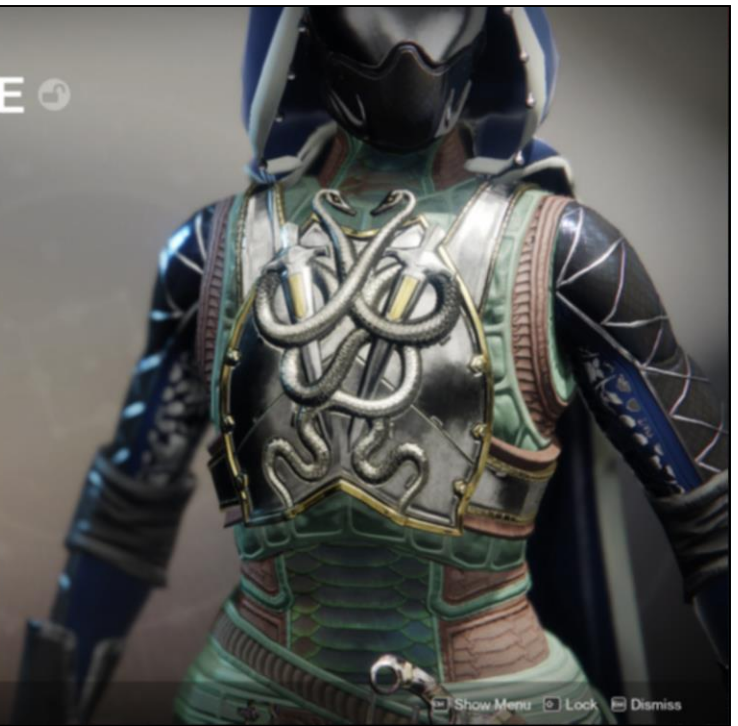
## OPHIDIA SPATHE

CHEST ARMOR

### SCISSOR FINGERS

Intrinsic

Grants two knives per charge.



In an expansion done in partnership with Vicarious Visions, one of the exotics they made was Ophidia Spathe. This chest is for Gunslinger hunters, whose melee ability is to throw a knife. This exotic alters that melee ability so you can throw two knives per melee charge.



At the same time, they were looking at bringing back an exotic from Destiny 1, Sealed Ahamkara's Grasp. Originally this exotic gave hunters an extra melee charge, regardless of subclass

But through the rigorous peer review of the sandbox team and playtesting, we realized that double melee charge for hunters is a perk that while powerful, uses up too much gameplay space pie.

# Hunter Melee Abilities + Exotics



Sealed Ahamkara's Grasp



Ophidia Spathe

Smoke Bomb

Knife Throw

Arc Uppercut

Arc Palm Strike

why would anyone ever run Ophidia Spathe to get two knife throws if they could have an exotic that gave two charges of ANY ranged melee ability. Two knife throws, two smoke bombs, two arc uppercuts, all from one exotic. So we ended up changing Sealed Ahamkara's Grasp





"But wait!" Destiny players may ask "Warlocks have an exotic that gives THEM an extra melee charge," why is this perk a problem for hunters, but not warlocks??

It comes down to what's the utility of the mechanic you are adding power to

When I work on exotics I have a spreadsheet for tracking the different gameplay atoms for different player abilities I might be affecting with those exotics

# Fun with Spreadsheets!

| Melee Name        | Class   | Subclass | Player Effect | Local Damage | Movement | Ranged | AOE Damage | Unglaring Area | Recharge Possibility |
|-------------------|---------|----------|---------------|--------------|----------|--------|------------|----------------|----------------------|
| Defensive Strike  | Titan   | Void     |               | 1            | 1        |        |            |                |                      |
| Shield Bash       | Titan   | Void     |               |              | 1        | 1      |            | 1              |                      |
| Tactical Strike   | Titan   | Void     |               |              | 1        |        |            | 1              |                      |
| Seismic Strike    | Titan   | Arc      |               |              | 1        | 1      |            | 1              |                      |
| Frontal Assault   | Titan   | Arc      | 1             |              | 1        |        |            |                |                      |
| Ballistic Slam    | Titan   | Arc      |               |              | 1        |        |            |                |                      |
| Hammer Strike     | Titan   | Solar    |               |              | 1        | 1      |            | 1              |                      |
| Mortar Blast      | Titan   | Solar    |               |              | 1        |        |            | 1              |                      |
| Throwing Hammer   | Titan   | Solar    |               |              |          |        | 1          |                | 1                    |
| Snare Bomb        | Hunter  | Void     |               |              |          |        | 1          | 1              | 1                    |
| Vanish in Smoke   | Hunter  | Void     | 1             |              |          |        | 1          |                |                      |
| Corrosive Smoke   | Hunter  | Void     |               |              |          |        | 1          | 1              | 1                    |
| Explosive Knife   | Hunter  | Solar    |               |              |          |        | 1          | 1              |                      |
| Knife Juggler     | Hunter  | Solar    |               |              |          |        | 1          |                | 1                    |
| Knife Trick       | Hunter  | Solar    |               |              |          |        | 1          | 1              |                      |
| Shocking Blow     | Hunter  | Arc      |               |              |          |        |            | 1              |                      |
| Disorienting Blow | Hunter  | Arc      |               |              |          |        |            |                | 1                    |
| Tempest Strike    | Hunter  | Arc      |               |              | 1        | 1      | 1          |                |                      |
| Firestarter       | Warlock | Solar    | 1             |              | 1        |        |            |                |                      |
| Purifying Flame   | Warlock | Solar    | 1             |              | 1        |        |            |                |                      |
| Igniting Touch    | Warlock | Solar    |               |              | 1        |        |            | 1              |                      |
| Chain Lightning   | Warlock | Arc      |               |              | 1        |        |            | 1              |                      |
| Ball Lightning    | Warlock | Arc      |               |              |          |        | 1          | 1              |                      |
| Rising Storm      | Warlock | Arc      |               |              | 1        |        |            |                |                      |
| Entropic Pull     | Warlock | Void     |               |              | 1        |        |            |                |                      |
| Atomic Breach     | Warlock | Void     |               |              | 1        |        |            | 1              |                      |
| Devour            | Warlock | Void     | 1             |              | 1        |        |            |                |                      |
|                   |         |          | 9             | 16           | 4        | 9      | 14         | 2              | 1                    |

This is the spreadsheet for player melees in the game, which for the purposes of this presentation, I'll reduce to this.

## Number of Melee Atoms per Class

|                 | Player Effect | Local Damage | Movement | Ranged | AOE Damage | Lingering Area | Recharge Possibility | Total |
|-----------------|---------------|--------------|----------|--------|------------|----------------|----------------------|-------|
| <b>Titans</b>   | 2             | 8            | 3        | 1      | 5          | 0              | 1                    | 20    |
| <b>Hunters</b>  | 1             | 1            | 1        | 7      | 5          | 2              | 2                    | 19    |
| <b>Warlocks</b> | 6             | 7            | 0        | 1      | 4          | 0              | 0                    | 18    |

the takeaway is that melee abilities for all the classes and subclasses have lots of different qualities, different gameplay atoms



## Number of Melee Atoms per Class

|          | Player Effect | Local Damage | Movement | Ranged | AOE Damage | Lingering Area | Recharge Possibility | Total |
|----------|---------------|--------------|----------|--------|------------|----------------|----------------------|-------|
| Titans   | 2             | 8            | 3        | 1      | 5          | 0              | 1                    | 20    |
| Hunters  | 1             | 1            | 1        | 7      | 5          | 2              | 2                    | 19    |
| Warlocks | 6             | 7            | 0        | 1      | 4          | 0              | 0                    | 18    |

Some classes have melees that feature more of one type of atom than other classes, which we do this to help distinguish class identities in gameplay,

## Number of Melee Atoms per Class

|          | Player Effect | Local Damage | Movement | Ranged | AOE Damage | Lingering Area | Recharge Possibility | Total |
|----------|---------------|--------------|----------|--------|------------|----------------|----------------------|-------|
| Titans   | 2             | 8            | 3        | 1      | 5          | 0              | 1                    | 20    |
| Hunters  | 1             | 1            | 1        | 7      | 5          | 2              | 2                    | 19    |
| Warlocks | 6             | 7            | 0        | 1      | 4          | 0              | 0                    | 18    |

But overall, the total number of atoms per class is fairly even

## Number of Melee Atoms per Class

|          | Player Effect | Local Damage | Movement | Ranged | AOE Damage | Lingering Area | Recharge Possibility | Total |
|----------|---------------|--------------|----------|--------|------------|----------------|----------------------|-------|
| Titans   | 2             | 8            | 3        | 1      | 5          | 0              | 1                    | 20    |
| Hunters  | 1             | 1            | 1        | 7      | 5          | 2              | 2                    | 19    |
| Warlocks | 6             | 7            | 0        | 1      | 4          | 0              | 0                    | 18    |



You may look at this and think, oh since those numbers are pretty even then it means all the class melee abilities are equal

## Number of Melee Atoms per Class

|          | Player Effect | Local Damage | Movement | Ranged | AOE Damage | Lingering Area | Recharge Possibility | Total |
|----------|---------------|--------------|----------|--------|------------|----------------|----------------------|-------|
| Titans   | 2             | 8            | 3        | 1      | 5          | 0              | 1                    | 20    |
| Hunters  | 1             | 1            | 1        | 7      | 5          | 2              | 2                    | 19    |
| Warlocks | 6             | 7            | 0        | 1      | 4          | 0              | 0                    | 18    |



But it turns out that's not true. Even though the number of mechanics is fairly even, the atom themselves are not all equal

## Number of Melee Atoms per Class

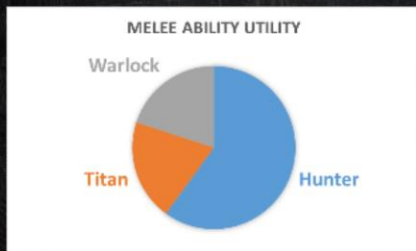
|          | Player Effect | Local Damage | Movement | Ranged | AOE Damage | Lingering Area | Recharge Possibility | Total |
|----------|---------------|--------------|----------|--------|------------|----------------|----------------------|-------|
| Titans   | 2             | 8            | 3        | 1      | 5          | 0              | 1                    | 20    |
| Hunters  | 1             | 1            | 1        | 7      | 5          | 2              | 2                    | 19    |
| Warlocks | 6             | 7            | 0        | 1      | 4          | 0              | 0                    | 18    |



The crux is that hunters have lots of ranged melees –the smoke bombs and knife throws, and in our game a ranged ability has more utility than an up close attack. It is much safer to perform, you have more control over your distance to danger. So even though they might not be as powerful as other melees, the situations in which they are useful is more broad

## Ranged Abilities = More Utility

|          | Player Effect | Local Damage | Movement | Ranged | AOE Damage | Lingering Area | Recharge Possibility | Total |
|----------|---------------|--------------|----------|--------|------------|----------------|----------------------|-------|
| Titans   | 2             | 8            | 3        | 1      | 5          | 0              | 1                    | 20    |
| Hunters  | 1             | 1            | 1        | 7      | 5          | 2              | 2                    | 19    |
| Warlocks | 6             | 7            | 0        | 1      | 4          | 0              | 0                    | 18    |



With high utility atoms, when you add power TO them, like with an exotic, it has a cascading power effect that eats up that gameplay space rapidly. So when making exotics that deal with melees, we have to be aware of this utility imbalance that hunters have



## Conserve your Gameplay Pie!



BUNGIE

DESTINY 2

So that's why it was safe for warlocks to get an extra melee charge but why we had to change it for hunters, and it goes to show that trying to conserve gameplay space for the future is not always straightforward



## Example 2 – Stretching a Slice

Warlock Rifts

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DESTINY 2

Now let's talk about the other side of the coin, stretching your pie to go further



## New Class Abilities!



Barricade



Dodge



Rift

BUNGIE

DESTINY 2

At the launch of D2 we introduced three new gameplay atoms in the form of class abilities.

Titans can make a barricade, hunters can dodge roll, and warlocks can cast a rift.

## Warlock Rift



BUNGIE

DESTINY 2

The way a warlock rift works is you hold a button to cast a little pool of light at your feet, and you and your allies standing in there get buffed.

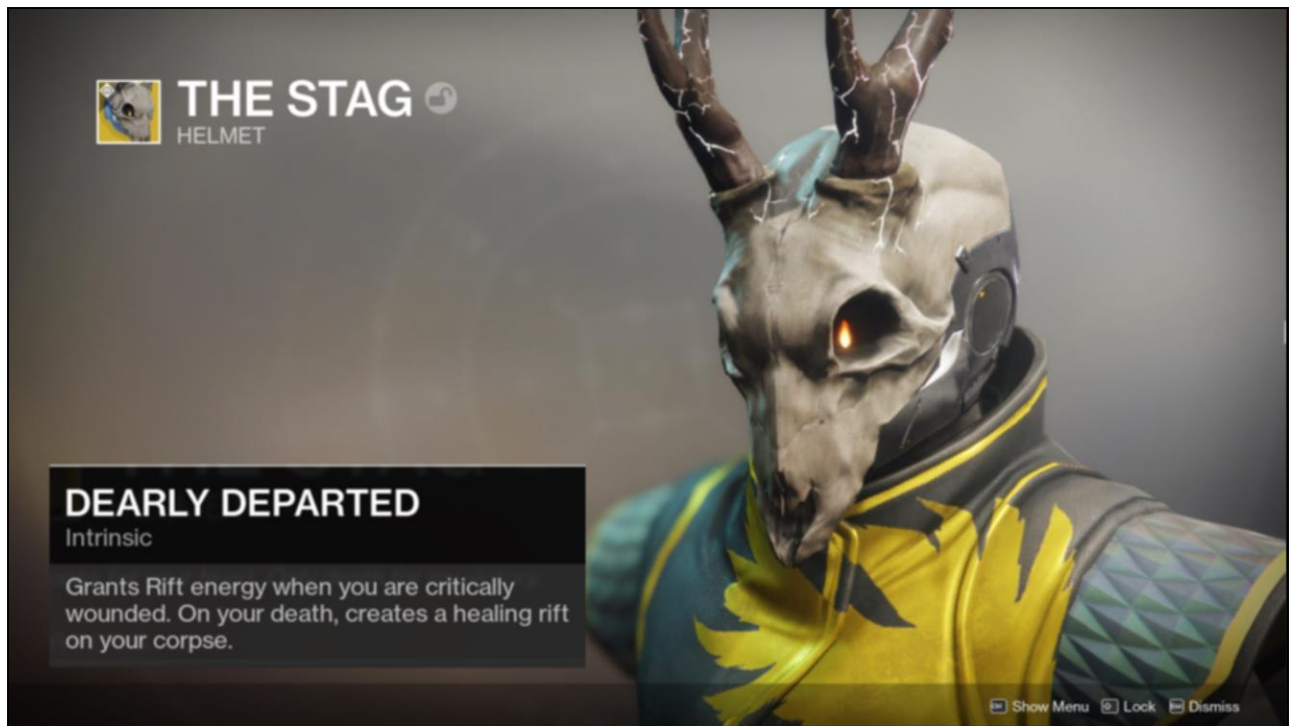
## Warlock Rift



BUNGIE

DESTINY 2

It'll either heal you or buff your weapon damage. For one expansion, I was tasked with making some exotics that made use of class abilities.



One exotic was that Stag, a rework of a D1 exotic. When you wear this, if you get critically wounded, like if your shield breaks, you get a big chunk of rift energy back.



## VESPER OF RADIUS

CHEST ARMOR

### PLANETARY TORRENT

Intrinsic

Rifts release an Arc shockwave when cast.  
Rift energy recharges faster when you are  
surrounded by enemies.



Show Menu Lock Dismiss

The other exotic is Vesper of Radius. In this one, you get rift energy back when surrounded by enemies, and when you cast rift it knocks away those enemies.





When first making these I was worried that they were too similar, because both of them are about getting rift energy back when you are in danger. I was worried these might be too skimpy, was there actually meaningful choice between these two exotics?



But through iteration and playtesting, it became apparent that these were targeting two very different playstyles,

## Cautious or Strategic Play



The Stag was more about staying back, and being able to retreat into cover when in danger to heal back up, or expose yourself to intentionally get your rift for the damage buff



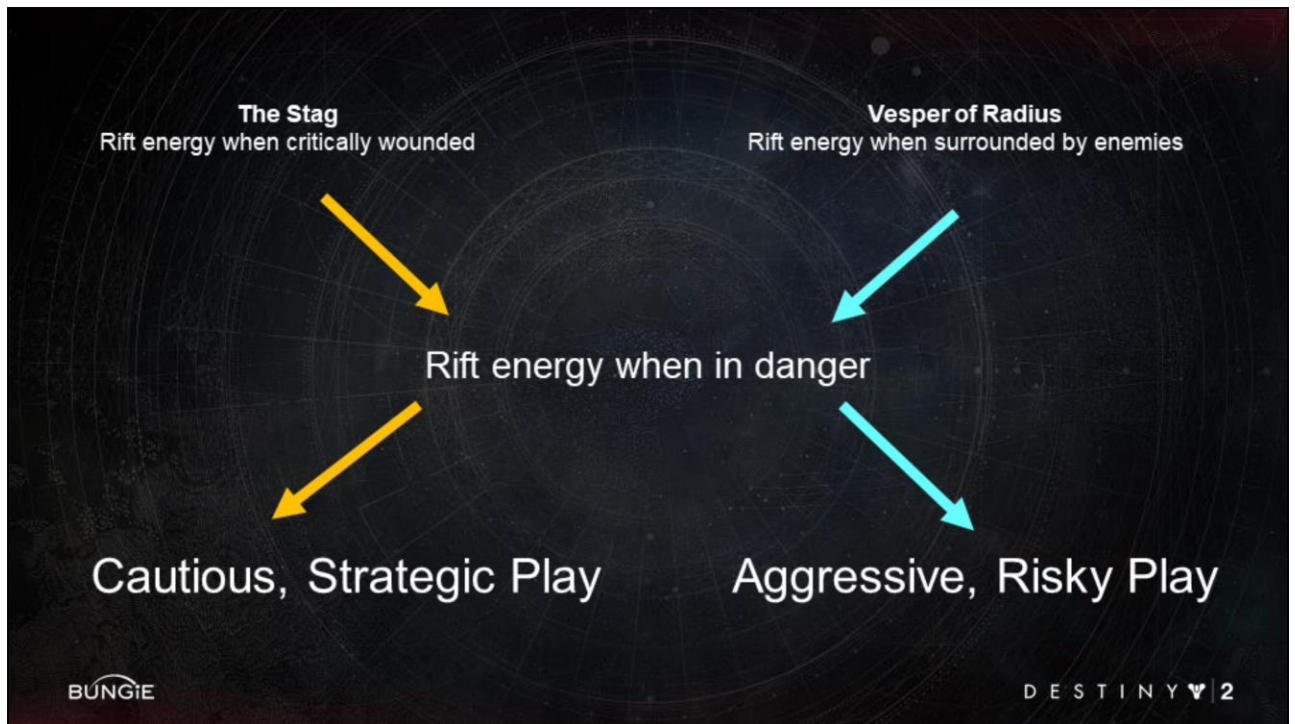
## Aggression, Risky Play



BUNGIE

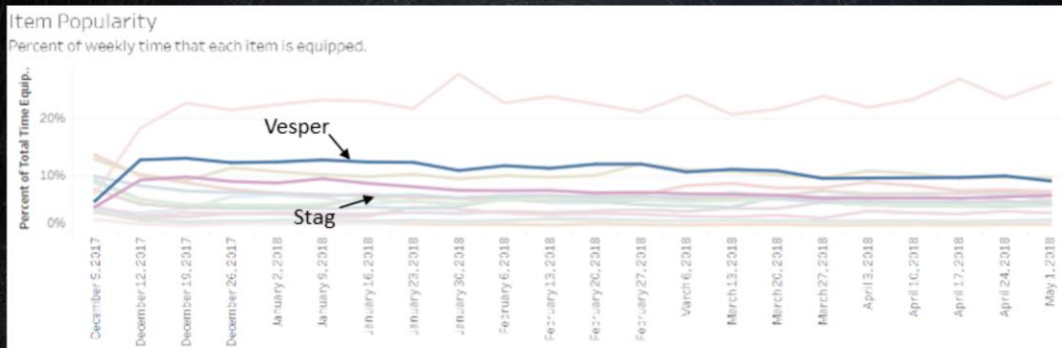
DESTINY 2

Vesper of Radius was way more aggressive, and about having survivability to jump into a group of dudes and blast them all away. It was taking a defensive ability and making it offensive



so even though they were mechanically similar, the whole perk package made them feel different enough to be distinct and desirable in their own ways. We took that gameplay atom of “get rift energy back when in danger” and stretched it out by focusing on very different playstyles

# Analytics



And in the live game, they both got a pretty healthy amount of use that I was happy with

# Recapping Processes

Processes for Pie Management

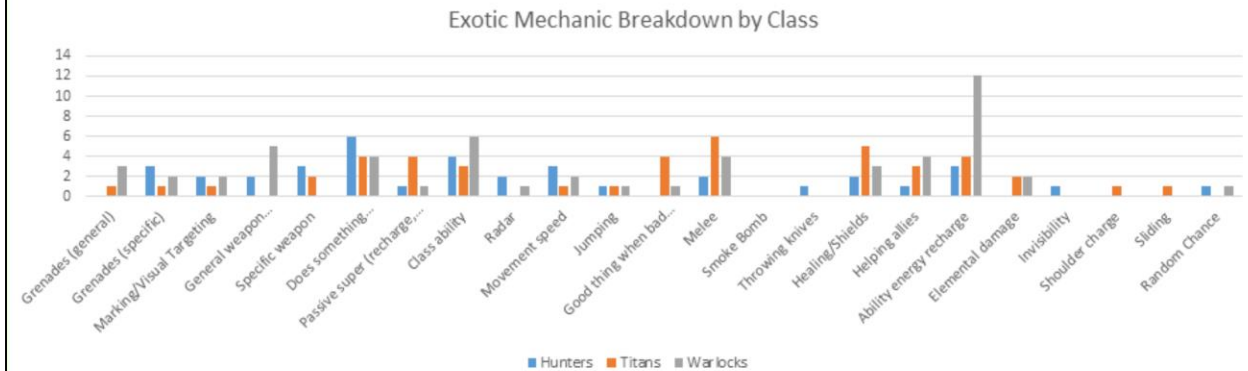
BUNGIE

DESTINY 2

To recap, here are some of the processes from my examples for use when managing my gameplay pie

# Processes for Pie Management

- Map your Possibility Space



Map out your gameplay possibility space.

When making a new exotic, I use a spreadsheet to look for gaps in exotic coverage and keep an eye on the utility of whatever I'm adding power to, to avoid overloading an exotic.



## Processes for Pie Management

- Playtest playtest playtest
- Rigorous Peer Review



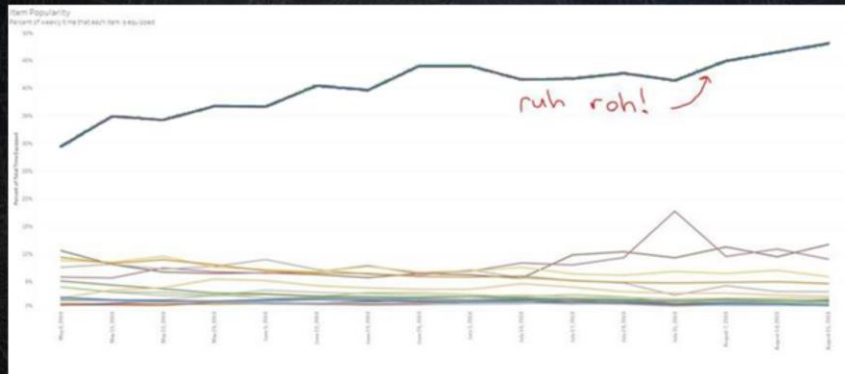
BUNGIE

DESTINY 2

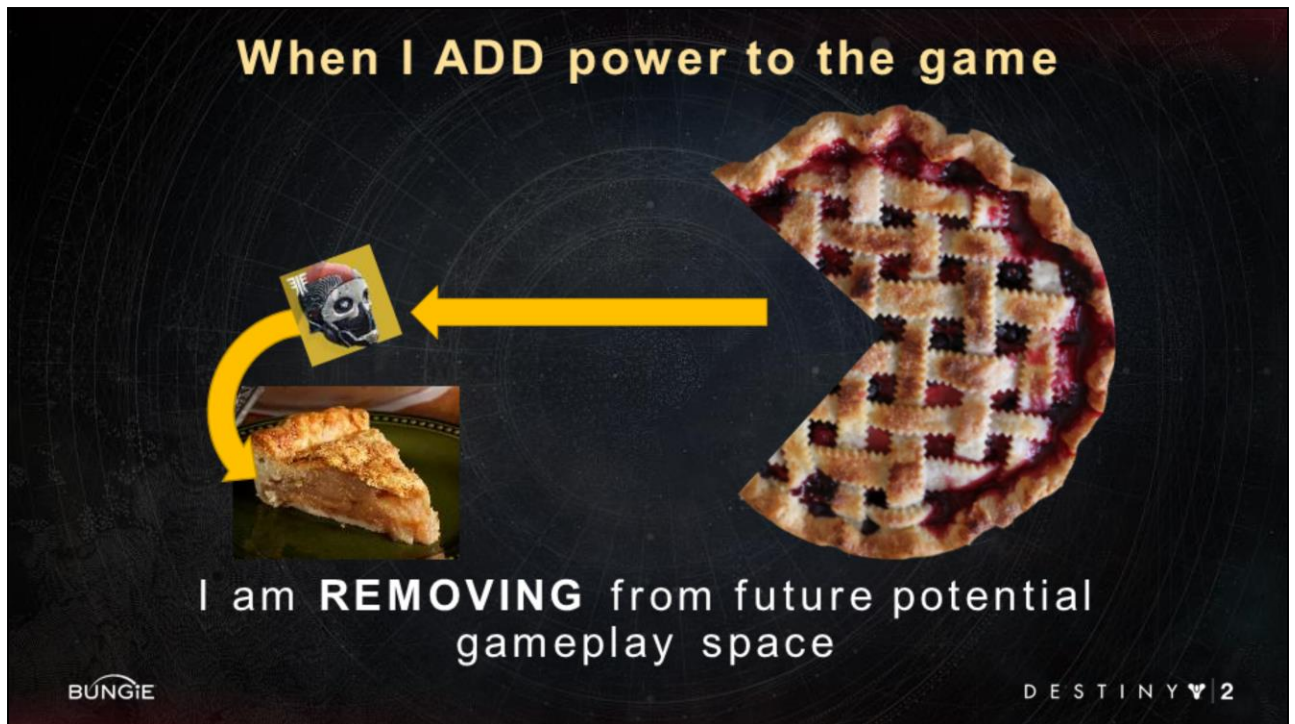
Playtesting and Peer Review are common every day practices at Bungie, where skilled players can seek out exploits and the Sandbox Team can spot red flags from their wealth of previous experience or previous failures

# Processes for Pie Management

- Analytics – Learning from the Live Game



And of course, learning from the live game. looking at both analytics for exotic use and player sentiment for some exotics that became "non choices," and learning why they became that way and how to avoid it in the future



In conclusion! If you are making a persistent live game and adding power items that game, consider what you are taking away every time you add something.

Maybe your game doesn't have the same "power items exist forever and compete with each other" issue that Destiny has to solve for, but this rule can still help you when designing a game with many possibilities for player power to ensure your choices are meaningful

[Dennis Wilkinson](#)

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Thank you!

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# **LISA BROWN**

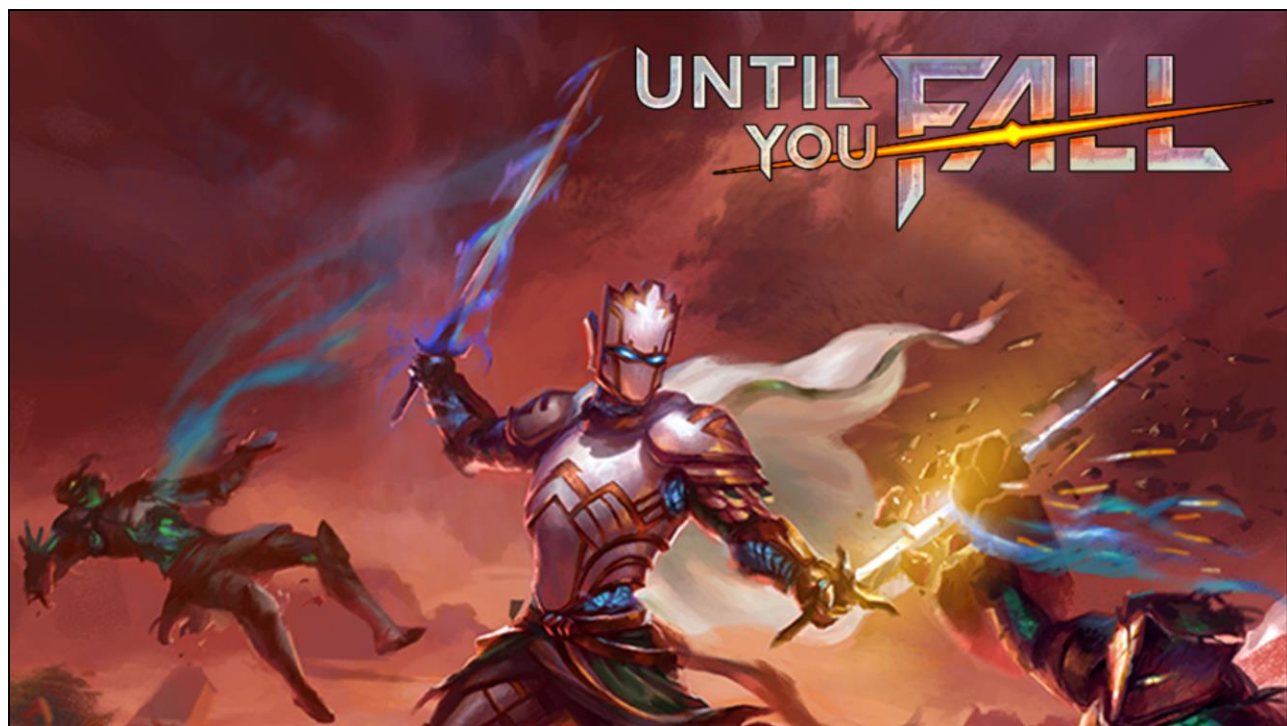
**Senior Game Designer**  
**Bungie**  
**@wertle**

# JESSE SCHELL

**CEO**  
**Schell Games**  
**@JesseSchell**

Jesse Schell is the CEO of Schell Games, where he has worked on a huge variety of games, but a particular favorite of mine is the VR title bond villain simulator *I Expect You to Die*

He's also a professor of practice at CMU and much as it pains me to recommend any game design book but my own, Jesse's book *The Art of Game Design: A Book of Lenses* is quite a good one.







**Story  
World  
Economy  
Action  
Fantasy**



More Flexible

**Story**

**World**

**Economy**

**Action**

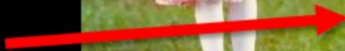
**Fantasy**

Less Flexible

STORY



EVERYTHING  
ELSE



**Story**  
**World**  
**Economy**  
**Action**  
**Fantasy**



STORY

EVERYTHING  
ELSE



**Story**  
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**Fantasy**



**Story**  
**World**  
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**Action**  
**Fantasy**



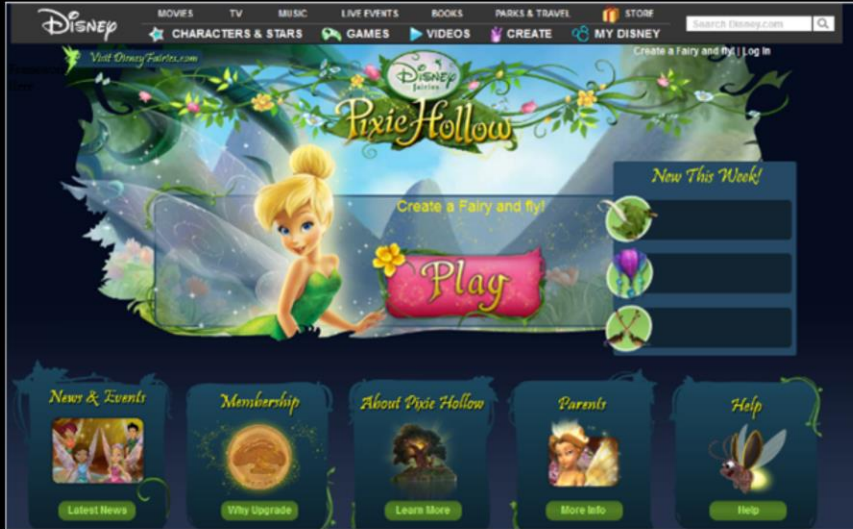
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**World**  
**Economy**  
**Action**  
**Fantasy**





# **JESSE SCHELL**

**CEO  
Schell Games  
@JesseSchell**



I hope you've enjoyed this year's design rules.... Concepts that took a little longer than a single fortune cookie to explain. Fortune cookies are great, but sometimes you should eat something more sustaining.

# Rules of the Game

With your host **Richard Rouse III** @richardrouseiii

**Deborah Hendersen** “Tell Players What Winning Is”

**Daniel Cook** “Use Real Humans to Drive Your Experience”  
@danctheduck

**Brian Upton** “Design Moments of Stillness”  
@bbupton

**Lisa Brown** “Manage Your Gameplay Pie”  
@wertle

**Jesse Schell** “Obey the Story Stack”  
@JesseSchell

**Slides at: [www.paranoidproductions.com](http://www.paranoidproductions.com)**

GAME DEVELOPERS CONFERENCE  
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And fin!

And please remember to fill out your surveys! We read each and every one of the comments and find they can be really helpful knowing how much you like sessions like this.

Thanks everyone!