



# Systematic Storytelling

Interactivity, Agency and Non-linear Narratives



# Overview



- Interactive Narratives
  - What is Narrative?
  - Emergent vs. Designed
  - The Story Engine
  - Linear vs. Non-linear
  - Agency and Ergodic Literature
- Agency
  - Choices, Calculations, and Conflict
  - The Narrative Paradox
  - Managing Agency



# Part I: Interactive Narratives



# Narrative Definition

**“Narrative** (noun) A spoken or written account of connected events; a story”

- *OxfordDictionaries.com*

**“Story** (noun) An account of imaginary or real people and events told for entertainment”

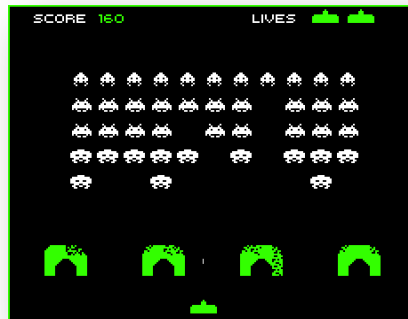
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# Elements of Drama (Fullerton)

## ➤ Premise

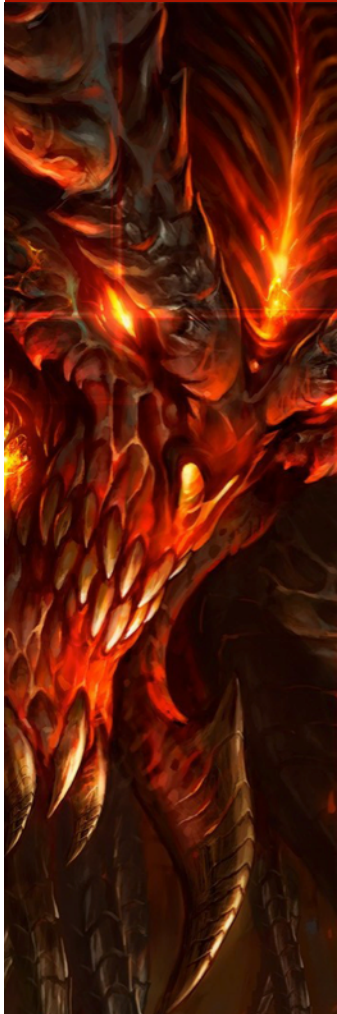
- Establishes the action within a setting or metaphor
- Leads to emotional investment



“**Space Invaders**, the game is set on a planet ... which is attacked by aliens. You play an anonymous protagonist responsible for defending the planet from the invaders. The story begins when the first shot is fired.”



“**Diablo**, you play a wandering warrior who arrives in the town of Tristram, which has been ravaged by Diablo. The townspeople ask for your help in defeating Diablo and his undead army, which is ensconced in the dungeon beneath the church. The story begins when you accept the quest”



Diablo

# Elements of Drama (Fullerton)

## ➤ Characters

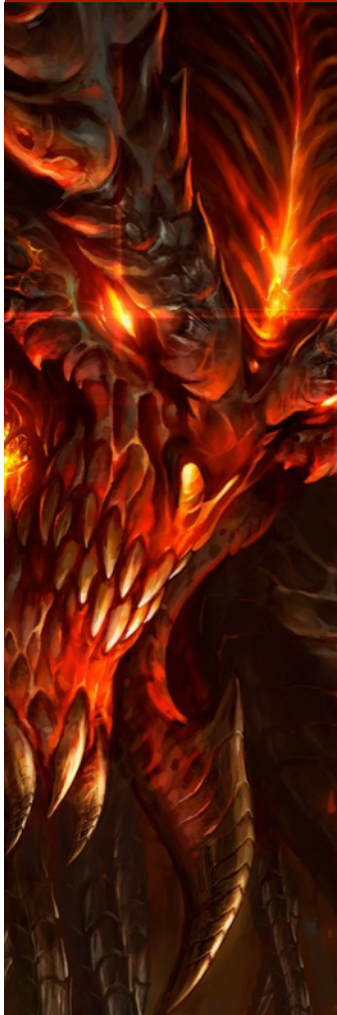
- By identifying with a character and the outcome of their goals, the audience internalizes the story's events and empathizes with its movement toward resolution

## ➤ World-building

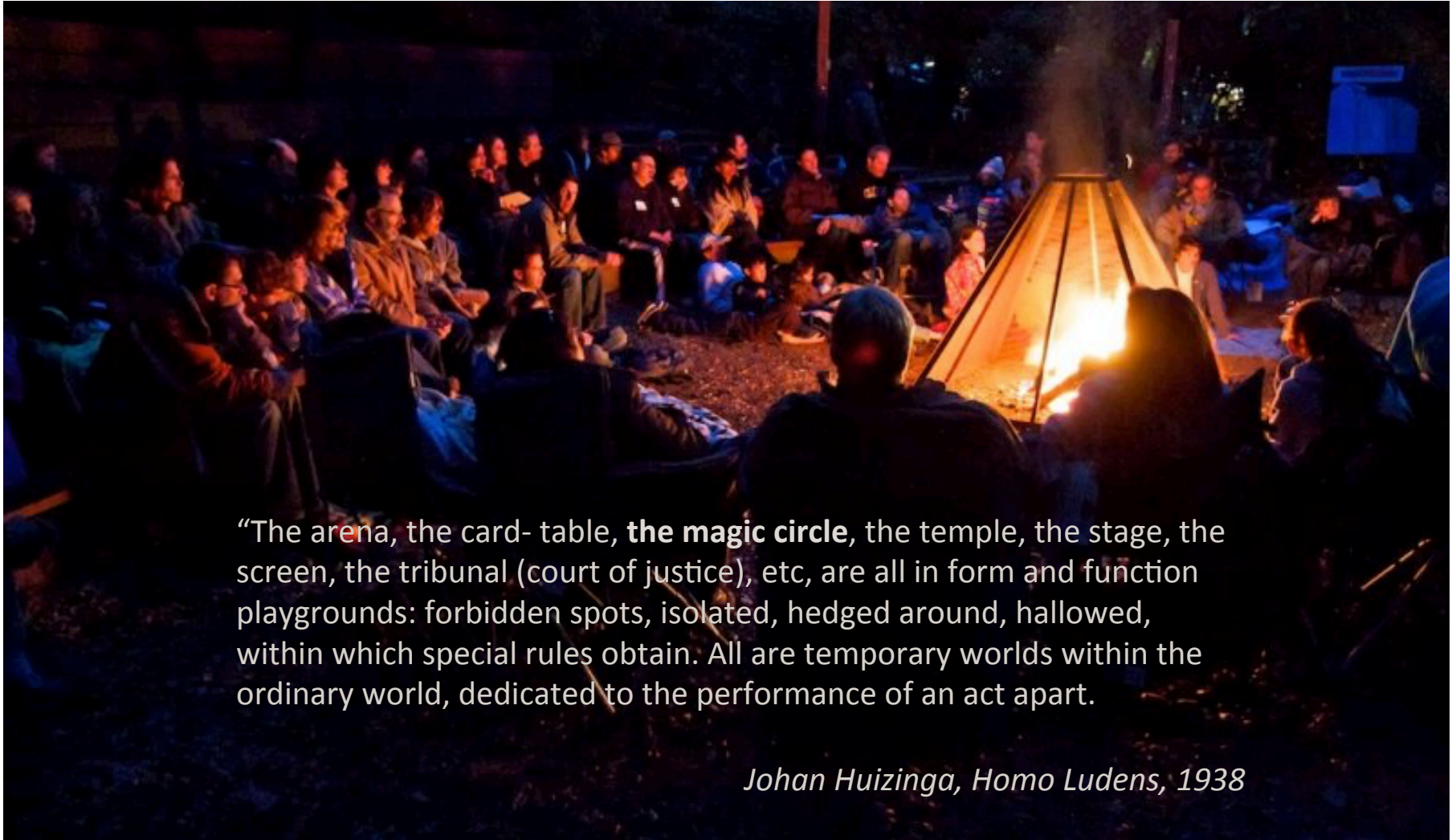
- Sense of depth and story potential that keeps players interested over long periods of times

## ➤ The Dramatic Arc

- Conflict is at the heart of any good drama,
- Draws players into the game emotionally by creating a sense of tension
- Dramatic tension is as important to the success of a game as it is to a great film or novel.



# The Magic Circle



“The arena, the card- table, **the magic circle**, the temple, the stage, the screen, the tribunal (court of justice), etc, are all in form and function playgrounds: forbidden spots, isolated, hedged around, hallowed, within which special rules obtain. All are temporary worlds within the ordinary world, dedicated to the performance of an act apart.

*Johan Huizinga, Homo Ludens, 1938*

# Narrative Definition?

That's what it *does*

But what *is* it?



# Narratology 101

Russian Formalists



Vladimir  
Propp

Viktor  
Shklovsky

# Narratology 101



# Narratology 101

Narratologists



French Structuralists



Russian Formalists



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## Fabula

“a series of logically and chronologically related events that are caused or experienced by actors... Events, actors, time, and location together constitute the material of a fabula.”

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Mieke Bal  
Narratology, 1985

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“a text in which a narrative agent tells a story”

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Tzvetan  
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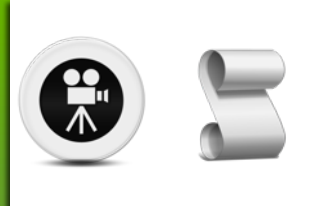
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# Applied to Games?

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Dramatic  
Arc

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## Fabula

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Premise  
Characters  
World-  
Building

# Emergent vs. Designed Stories



The Sims

- **Emergent** (e.g. The Sims)
  - No pre-planned structure
  - The Fabula and Story emerge entirely from player actions within the game system
  - The player as storyteller, relies on:
    - narrative sensemaking
    - anthropomorphism
- Requires mechanics able to produce a rich fabula
  - Limit repetition and randomness
  - Produce credible and coherent events
- No story teller (virtual or otherwise)
  - So no way to guarantee conflict and drama

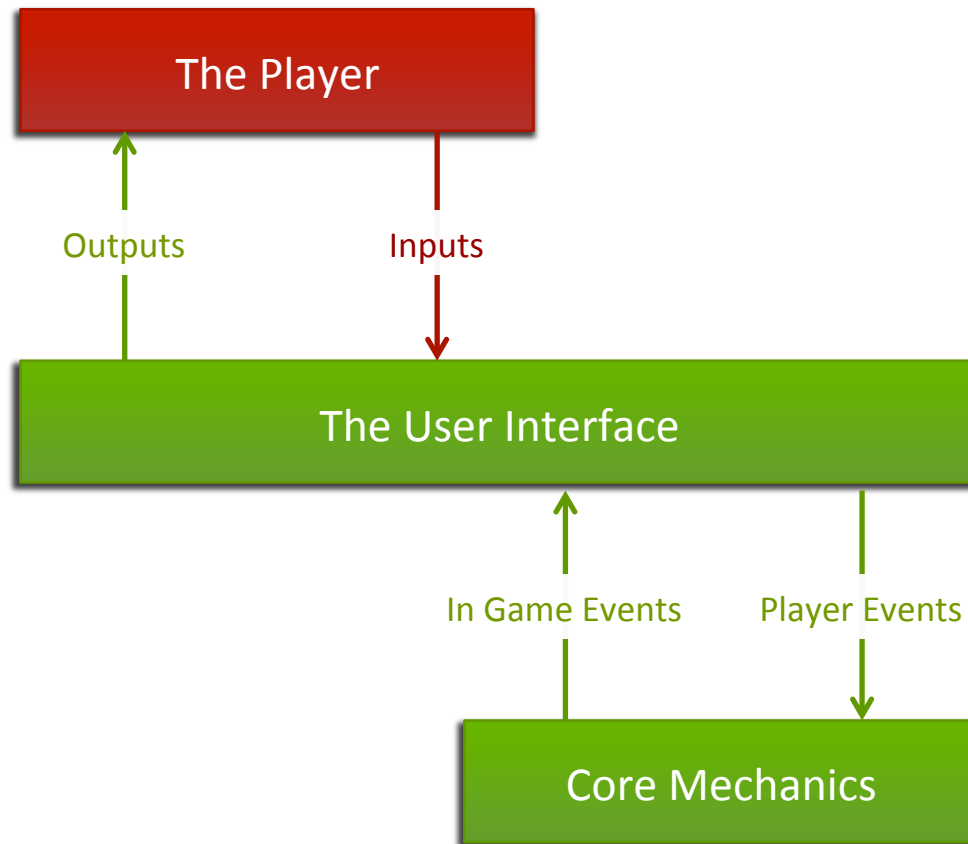
# Emergent vs. Designed Stories



- **Designed** (e.g. Mass Effect)
  - A planned story structure
  - Limits the players influence on the Fabula
  - The designer as storyteller
  
- **Story as Journey**
  - Story is modeled as a sequence of locations
  - Progress is maintained through limitations on travel
    - (e.g. Monkey Island: Guybrush is shot onto the island from a cannon, no way back!)
  
- **Story as Drama**
  - Story is modeled as a sequence of events
    - typically not game dynamics
    - player may or may not influence the progress and direction of the story
  
- Often combined together (e.g. The Heroes Journey)

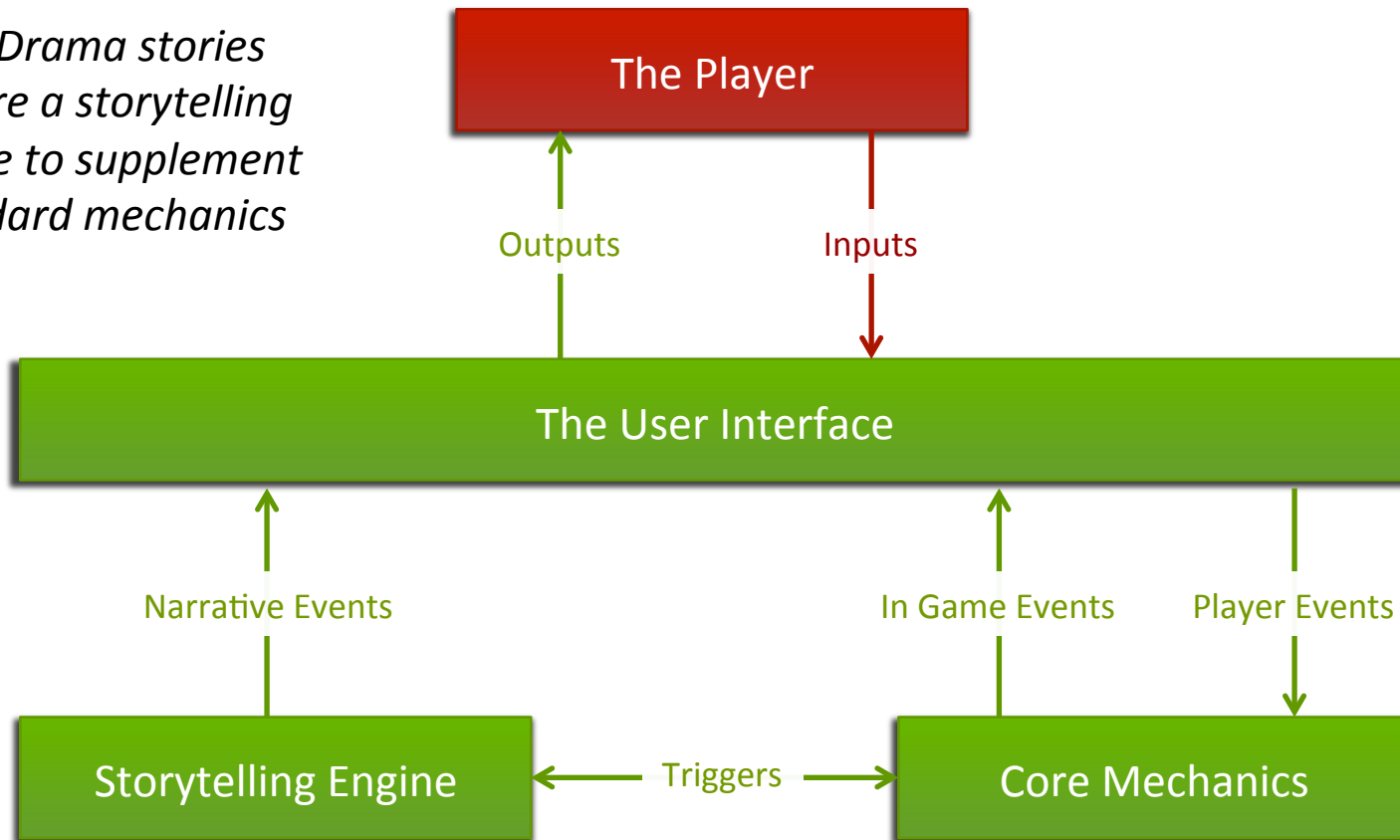
# The Story Engine

*Sufficient for  
Emergent Narratives  
+  
Simple Journey Stories*



# The Story Engine

*But Drama stories  
require a storytelling  
engine to supplement  
standard mechanics*



# Linear vs. Non-Linear Structure



Assassins Creed 2

	Linear	Non-Linear
Cost	<b>Cheap</b>	Expensive
Storytelling Engine	<b>Simple</b>	Complex
Likelihood of bugs and absurdities	<b>Low</b>	High
Number of plays to experience whole game	<b>Once</b>	Many

*So why bother with interactive non-linear narratives at all?*



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*So why bother with interactive non-linear narratives at all?*

Agency	Low	<b>High</b>
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*And this is the whole point of a game!*

# Agency

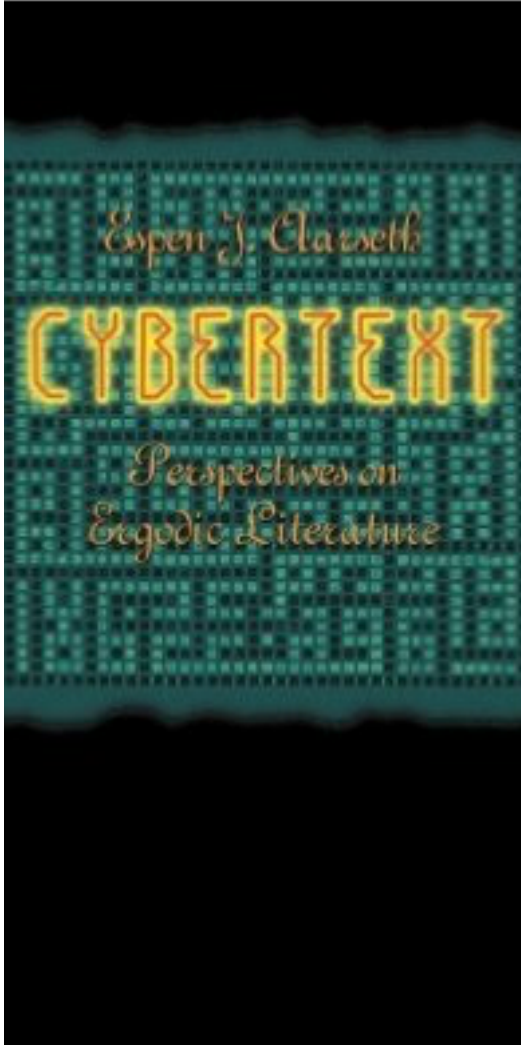
“**Agency** (noun) Ability or capacity to act or exert power.”

- *OED*

“In sociology and philosophy, **agency** is the capacity of an entity (a person or other entity, human or any living being in general, or soul-consciousness in religion) to act in any given environment.”

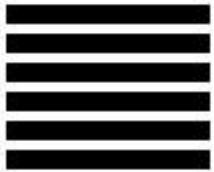
- *Wikipedia*

# Ergodic Literature



- Games are not the only medium to have increased agency
- Espen Aarseth defined **Ergodic literature** as pieces where “nontrivial effort is required to allow the reader to traverse the text”
  - Greek *ergon* = work
  - Greek *hodos* = path

# Examples of Ergodic Literature



➤ **I Ching (Book of Changes)** is an ancient Chinese divination text



➤ Consists of 64 Hexagrams

➤ Selected by the selection of Yarrow Sticks

➤ (or by coin tosses)



➤ Result is a single hexagram, or a transformation between hexagrams



➤ Each hexagram is a chapter in the I Ching



➤ Are read and interpreted in the context of the readers enquiry

# Examples of Ergodic Literature

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## AYN RAND NIGHT OF JANUARY 16TH

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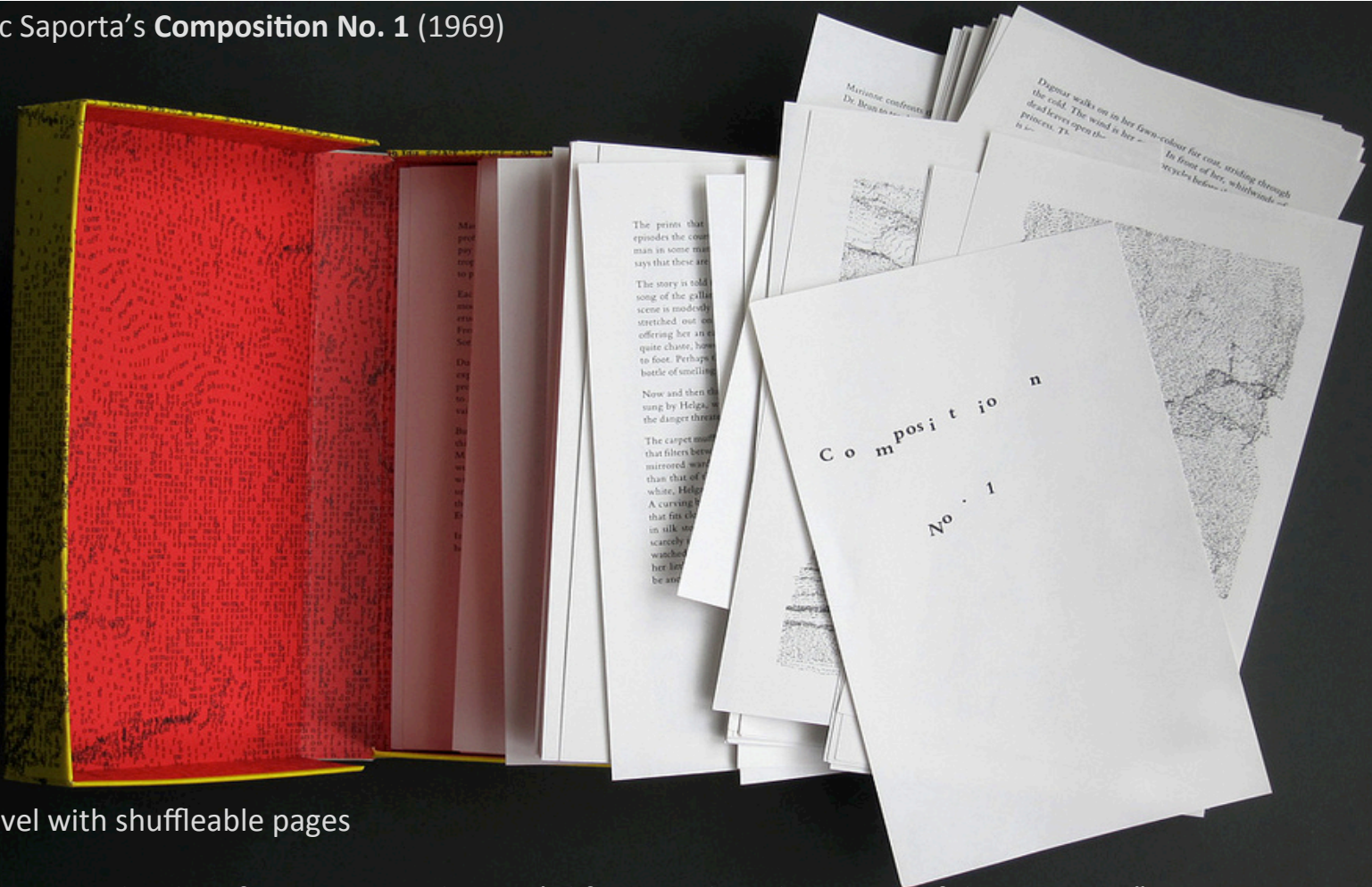
THE DEFINITIVE EDITION OF RAND'S  
FAMOUS PLAY, INCORPORATING THE  
AUTHOR'S FINAL CHANGES



- Ayn Rand's **Night of January 16<sup>th</sup>**
- Set in a courtroom during a murder trial
- Members of the audience are selected to play the jury
- Their decision changes the end of the play

# Examples of Ergodic Literature

## ➤ Marc Saporta's **Composition No. 1** (1969)



➤ a novel with shuffleable pages

➤ "the time and order of events control a man's life more than the nature of these events."

# Examples of Ergodic Literature



for directions click yes (y)-- to start press Return  
©1987,92 Michael Joyce  
Eastgate Press 3rd Edition 1992 12345...  
PO Box 1307  
Cambridge, MA 02238

➤ Michael Joyce's **Afternoon: a story** (1987)

➤ A hypertext novel published by Eastgate Systems

➤ Nodes and links and a default path

➤ Links are anchored on text, that hint at what lies beneath

➤ (but are occasionally misdirection or subversion)

➤ "Closure is, as in any fiction, a suspect quality, although here it is made manifest. When the story no longer progresses, or when it cycles, or when you tire of the paths, the experience of reading it ends."  
M. Joyce

Reader Hilfe

10

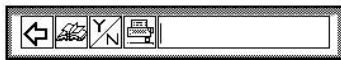
begin

I try to recall winter. < As if it were yesterday? > she says, but I do not signify one way or another.

By five the sun sets and the afternoon melt freezes again across the blacktop into crystal octopi and palms of ice-- rivers and continents beset by fear, and we walk out to the car, the snow moaning beneath our boots and the oaks exploding in series along the fenceline on the horizon, the shrapnel settling like relics, the echoing thundering off far ice. This was the essence of wood, these fragments say. And this darkness is air.

< Poetry > she says, without emotion, one way or another.

Do you want to hear about it?



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- Hypertext literature is supported by a rich history of theory that can help us think about game narratives
- In *Afternoon* Joyce uses cycles to encourage readers to read and reread nodes
  - Representing the circular thoughts and confusion of the protagonist
- In 1990 Mark Bernstein (Eastgate Systems) did an analysis of the structural patterns used by authors

Reader Hilfe 10

begin

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# Bernstein's Non-Linear Patterns



In the **Cycle**, the reader returns to a previously-visited node and eventually departs along a new path.



In **Joyce's Cycle**, the reader rejoins a previously-visited part of the hypertext and continues along a previously-traversed trajectory



A **contour** is formed where cycles impinge on each other, allowing free movement within and between the paths defined by each cycle.

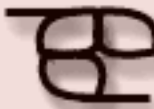
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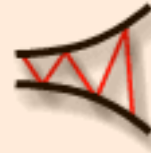
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In **Counterpoint**, two voices alternate, interleaving themes or welding together theme and response.



The **Tangle** confronts the reader with a variety of links without providing sufficient clues to guide the reader's choice.



**Sieves** sort readers through one or more layers of choice in order to direct them to sections or episodes. Sieves are often trees, but may be ... different topologies

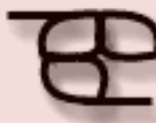
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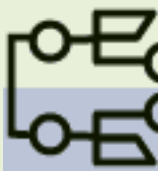
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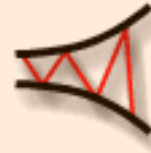
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**Mirrorworlds** provide a parallel or intertextual narrative that adopts a different voice or contrasting perspective.



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In **Montage**, several distinct writing spaces appear simultaneously, reinforcing each other while retaining their separate identities.

# Bernstein's Non-Linear Patterns

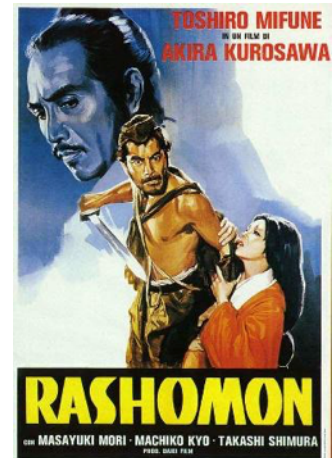


The **Split/Join** pattern knits two or more sequences together. Split/Join is indispensable to interactive narratives in which the reader's intervention changes the course of events... *Splits permit the narrative to depend on the reader's choice for a limited span, later returning the reader (at least temporarily) to a central core.*



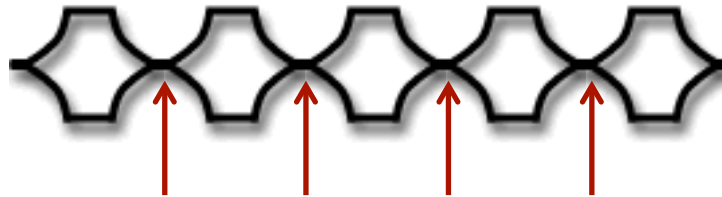
The **Rashomon** pattern embeds a split-join within a cycle. The split/join effectively breaks the cycle, as readers explore different splits during each recurrent exploration, yet the cycle remains a prominent frame that provides context for each strand.

**Overviews** and **tours** are examples of Split/Join where the rhetorical intent of each path is similar, but one side of the split is more detailed than the other.



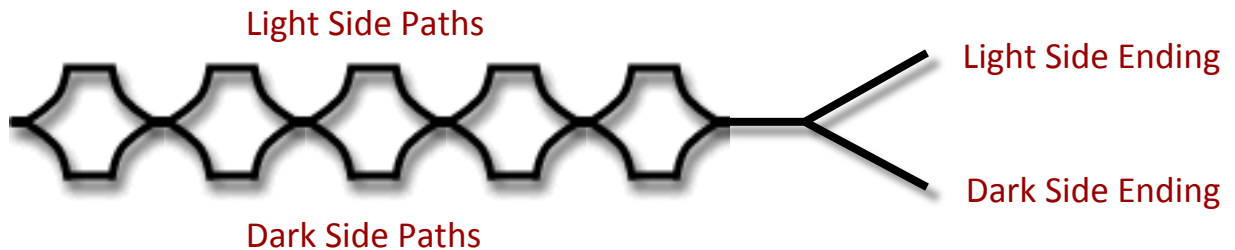
# Foldback Stories (Beads on a String)

- Most games use multiple split/join patterns to create a manageable story



Critical Turning Points

- The later you leave genuine branches the more manageable the story, E.g Knight of the Old Republic



KOTOR (poster)

# Summary



- Narratives can be seen as layered
  - Fabula, Story, and Text (Game Text)
- Stories can Emerge or be Designed
  - Designed Stories require a Story Engine
- Stories can be Linear or Non-Linear
  - Linear much easier, but less agency
- Stories with agency are known as Ergodic Literature
  - Many non-game examples (books, plays, hypertexts)
  - Many possible non-linear structures (e.g. cycles, tangles, etc)
  - Games tend towards split/joins
    - give limited agency over sections of the story
    - but keep the story moving in an overall direction



## Part II: Agency



# Choices

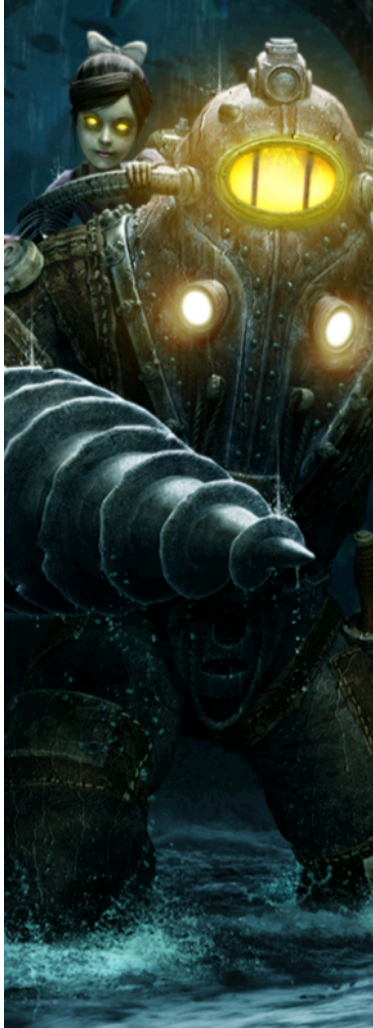
Choice is the manifestation of agency, and can influence narratives in a number of ways:

- **Immediate** – the player's choice is made at the point the narrative branches
- **Deferred** – the player's choice is recorded, and impacts a branch at a later point in the story
- **Cumulative** – the player's choices impact some sort of model, and this model impacts a branch at a later point in the story
  - The model could be as simple as a single number (for example, paragon and renegade points in Mass Effect)





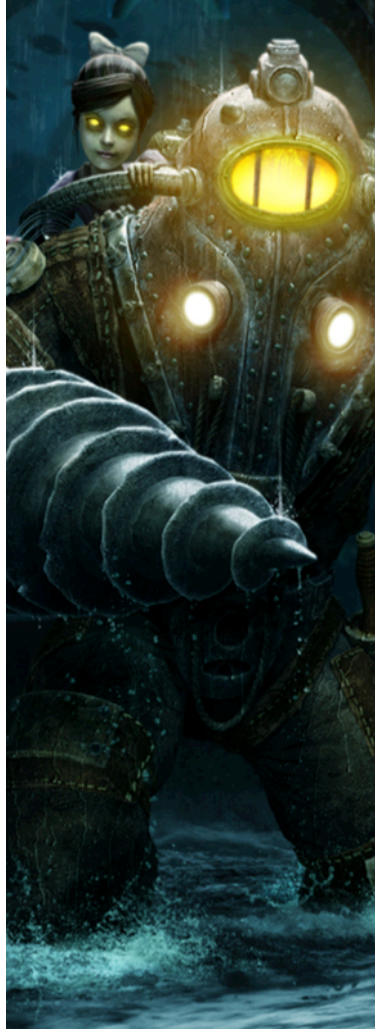
# Calculations vs. Choice



Bioshock (wallpaper)

- Choice is about **overcoming internal conflict**
  - Risk / Value decisions
    - Chase the extra life
    - Take a side quest for better gear
    - High road vs. low road (in game difficulty vs. out of game convenience)
  - Moral and ethical judgments
    - Moral (internal values)
    - Ethical (external values or rules)
  - Apples and Oranges
    - Choosing a perk (Fallout, CoD)

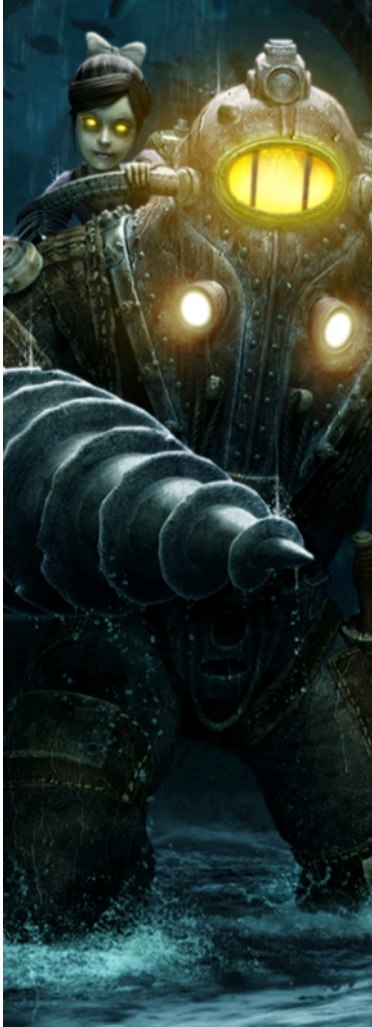
# Calculations vs. Choice



Bioshock (wallpaper)

- Calculations are not choices
  - they have a right answer!
    - e.g. which sword to equip in an RPG
  - can hide behind complexity
    - What about World of Warcraft talent trees? (Do they come down to a number of key stats that can be easily compared, e.g. DPS)
  
- Try to give players genuine choices
  - Goals that do not always align
  - Choices that go beyond simple calculation

# Calculations vs. Choice



Bioshock (wallpaper)

- Example: Bioshock
  - Harvest or Save the Little Sisters?
    - Little Sisters are genetically altered and mentally conditioned to reclaim ADAM from corpses
    - They are generally hostile to you (and accompanied by a Big Daddy)
      - Harvesting gives you 160 ADAM
      - Saving gives you 80 ADAM
    - But
      - Dr. Tenenbaum will give you 200 ADAM for each 3 you save and bonus goodies (plasmids, ammo, etc)
  - Your decision will change the tone of the final cut scene of the game
  
- Calculation or Choice?

# Interactive Fabula or Story?



Deathtrap Dungeon (cover)

- **Interactive Fabula** (the player's choices change the outcome of the story)
  - Fighting Fantasy Books
  - Interactive Fiction
- **Interactive Story** (the player's choices change how they experience the story)
  - Hypertext Literature
    - E.g. Patchwork Girl, Afternoon, 253
  - Virtual Drama
  - Performance Theatre
- **Interactive Fabula and Story** (the player's choices change the outcome, and the way in which it is experienced)

# Doug or Carly?

Video Not Included In Powerpoint

Carly!

Video Not Included In Powerpoint

Doug!

Video Not Included In Powerpoint

# What Sort of Choice Was That?



➔ Was it a choice or a calculation?





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Telltale have revealed that 75% of players choose to save Carly – why?



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*Players run into Carly as she is risking her life to save a boy. She knows a dark secret about the main character, but earns his trust by not revealing it to anyone else. She shares a deep conversation about keeping another character safe and then joins the player on a difficult, emotionally intense side mission with a horrific outcome.*

*On the other side, Doug is introduced as a passive observer. The player is forced to lie to him and most of the interaction with him is one-off dialogue. Vanaman and Rodkin noted that the first episode originally had a scene where Doug saved the group from a zombie attack using his technical skills, but it got cut somewhere along the line and was never replaced with something that suitably built his character.*



# What Sort of Choice Was That?

## ➤ Was it a choice or a calculation?

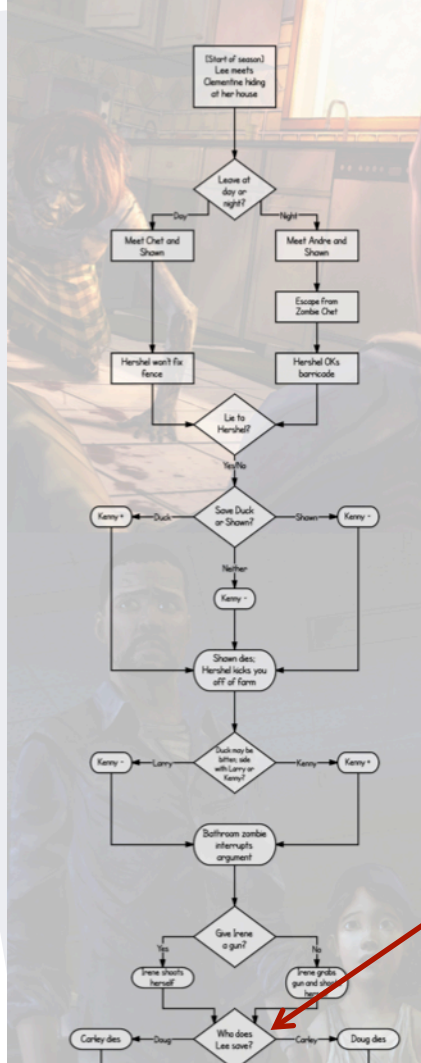
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## ➤ Was it changing fabula or story?

# What Sort of Choice Was That?

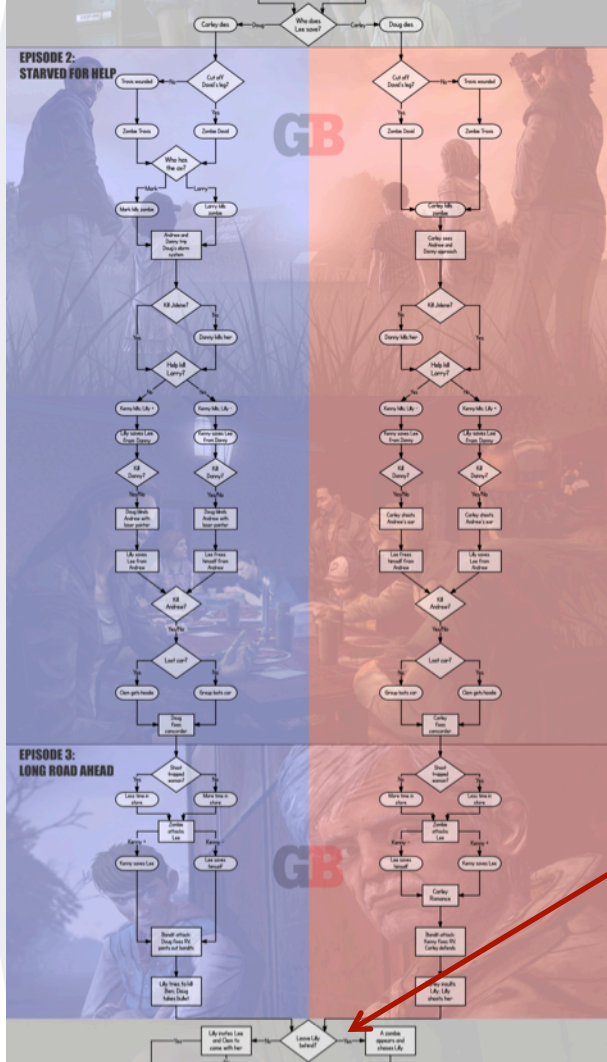


➤ This is the structure for Episode 1

➤ What is the pattern?

Note the choice between Carly and Doug at the bottom

# What Sort of Choice Was That?



- This is the structure for Episode 2
- What is the pattern?

Note that it comes back together again for Episode 3

# Narrative Paradox

- The story **requires** the protagonist to make certain decisions – sometimes mistakes
  - Peter Rabbit chooses to visit Mr McGregor's garden despite being warned not to
  - Hamlet summoned home to his Fathers funeral sinks into depression - should have had a nice cup of tea (instead everyone dies)
  - Han should not have trusted Lando at Cloud City (his bad trust decisions might get him into serious trouble one day!)
- Readers/players may choose otherwise



Peter Rabbit's Garden

# Managing the Paradox: Patterns



- Star Trek principle
  - Return the story universe to the same place at the end of every episode
  - Makes episodes interchangeable
- Split/Joins
  - Restrict the exponential growth of branching
- Mirrorworlds
  - Mirror structure down alternative paths (same design and assets)

# Managing the Paradox: Agnostic Characters

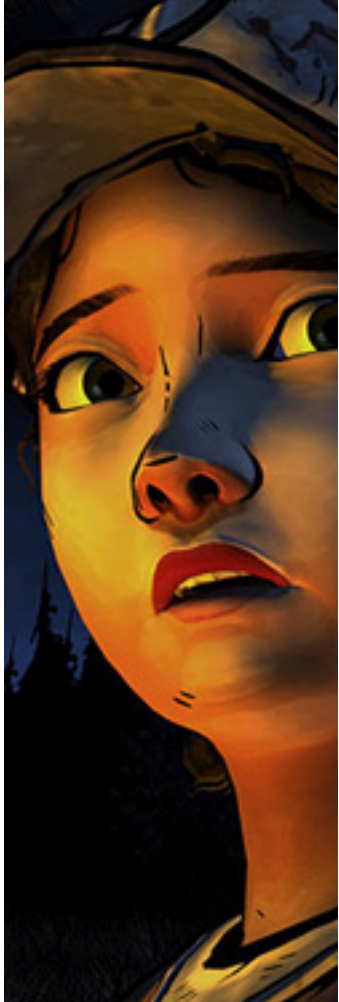


Dragon Age: Origins

- Variation on Mirrorworlds
  - But the mirrors diverge due to character differences rather than choices
  
- E.g. character choices in RPGs
  - Race choices in Dragon Age: Origins result in different starting zones, but rapidly converge
  - Remainder of story is mostly agnostic of class
  
- Mass Effect contains straight, gay and lesbian relationships
  - This is a byproduct of being agnostic of the players gender choice as any combination (MM, MF, FM, FF) could occur



# Managing the Paradox: Illusion of Choice



- Choices that have no consequences but look like they do
- Walking dead prompts
  - “Chem will remember that”
  - But not all have an effect
- Choices that have the same outcome
  - go left and find the key
  - go right and find the key
- What the player doesn't know wont bother them!

# Managing the Paradox: Topology



Spec Ops: The Line

- Use the physical space to restrict or encourage choices
  - Topology of level design
  - Triggered progression
  - One way systems (story as journey)
    - Lift shafts
    - Zip wires
    - Plane drops
    - (gravity helps a lot)

# Managing the Paradox: Direction and Misdirection



Witcher 3: Wild Hunt

- Use psychological cues to push the player in a given direction
  - Light vs. Dark areas
  - Visual/audio cues
  - Easy vs. Difficult paths
  
- Play with expectations
  - Genre tropes (treasure is in a chest)

# Managing the Paradox: Limit Controls



- Change the control system to restrict choices
- Quick Time Events
  - On screen prompts that limit player decisions, restricting outcomes
- Cutscenes
  - Player watches a critical part of the story unfold, unable to influence what happens
  - Metal Gear Solid 4 – final cut scene sequence is 71 min long

# Levels of Agency



Level of Agency	Mechanism
Full Agency	Topology (Open Worlds) Normal Game Mechanics
Influenced Agency	Direction/Misdirection Topology (Encourage)
Partial Agency	Control (Quick Time Events) Patterns (Split/Joins) Patterns (Mirrorworlds) Topology (Restrict)
False Agency	Illusion of Choice Agnostic Characters
No Agency	Control (Cut scenes)

# Summary



- Agency is the players ability to make choices
  - Choices are not calculations
  - They can change the fabula, the story, or both
- The Narrative Paradox
  - Is the tension between narrative imperatives and the agency of the player/reader
  - There are mechanisms to manage this paradox
    - patterns, agnostic characters, illusion of choice, topology, direction/misdirection, control
  - But this may reduce agency
    - full agency, influenced agency, partial agency, false agency, no agency
  - This is probably okay\*

\* next time

# Thank You

COMP3218 Website: <https://secure.ecs.soton.ac.uk/module/COMP3218/>



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