The Story So Far…

inkle

Episodic Structure

Self-contained encounters plus continuity

Content Heavy

Scale-first solution to branching, using text

Heaven's Vault

HEAVEN'S VAULT

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Self-contained encounters plus continuity

Content Heavy

Scale-first solution to branching, using text

Single continuous plot

Every episode furthers core narrative

3D game world to explore

Limited locations, limited cast, little redundancy

HEAVEN'S VAULT

Single continuous plot

Every episode furthers core narrative

3D game world to explore

Limited locations, limited cast, content reuse

Narrative-adventure-game-type-thing with high player freedom

Player Freedom

"What am I *supposed* to do now?"

- - - - - - - - - - - - - - -

"What *can* I do now?"

- - - - - - - - - - - - - - -

"Yikes what have I *done*?"

"Freedom"

Monkey Island

Uncharted

Shadow of the Colossus

Assassin's Creed

The Witcher

80 Days, Sorcery!

Horizon Zero Dawn

Dishonored

Thief

The Last Express (1997)

- Always moving forwards

- Real opportunity cost, missed events

- Lots of opportunities for cleverness

- But! Too tight: lots of fail and replay bottlenecks

* I think there's been a picture from The Last Express in every single talk I've ever done
* Here's a picture from entire rotoscoped violin concert inside the game
* How good is that?!?

Blade Runner (1997)

- Always know *why* you're going where you're going

- Backtracking was never useful (tho it was allowed)

- Coped with a variable story state

- But! Too broad: too many play-throughs dried up

* This image occurs right before one of the worst pieces of narrative design ever
* The game is about to branch. One branch offers complex alternative routes, the other doesn't
* One branch is triggered by an invisible QTE. Guess which.

Authoring Interaction

All Content is Atomic

- every action, including dialogue, is a block of content
- every atom is guarded by preconditions
- preconditions must be satisfied for content to surface

(* We write all this ink, but you could do it anywhere, and the ink structure required isn't trivial.)

```
* { can_see(Six) }
  {know(SHRINE_ELECTRIC)}
  {dont_know(WHAT_SHRINE_IS)}
  { can_see(Shrine)}
  Shrine - Ask Six to scan
```

```
* {got(WATER_GODDESS)}
  {can_touch(Shrine)}
  {know(SHRINES_HAVE_RECESS)}
  Shrine - Insert the Goddess figurine
```

```
* {can_touch(Shrine)}
  {not recently(ZAPPED_BY_SHRINE)}
  Shrine - Touch the shrine
```

Preconditions

1) World state

- Where is the player? What can see they see?

- What's open / closed / etc?

- What have you got?

- Who else is here?

=> Trigger volumes, ray-casts, state machines…

Preconditions

3) Recent Past

- What's just happened?

- What has the player just done?

- What has the player just talked about?

=> ink-level queries: "turns since…"

Benefits

- Responsive, easy to fine-tune: logic is *additive*
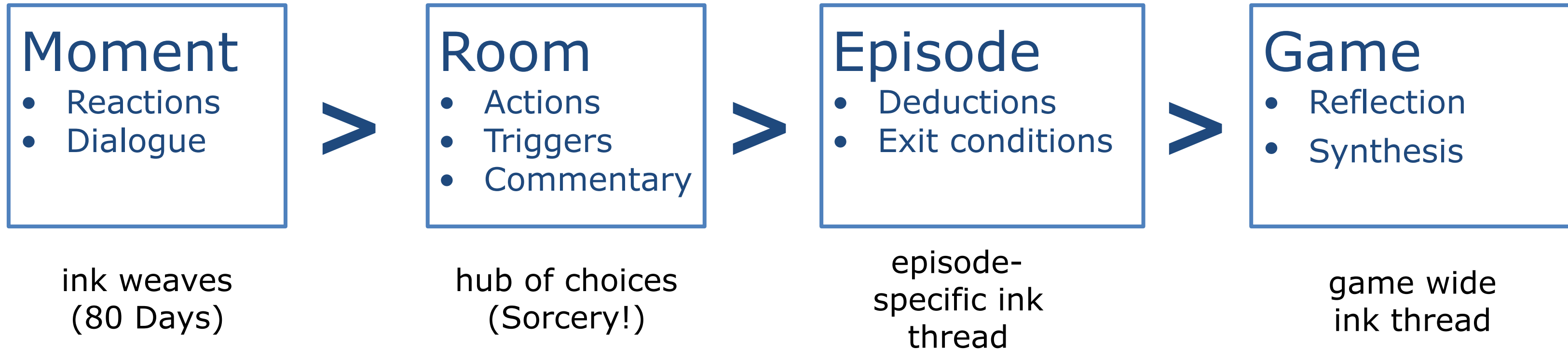- Non-linear flows happen naturally

Issues

- Repetitive, tedious and error-prone

Authoring Patterns

We write content in hierarchical "scopes"

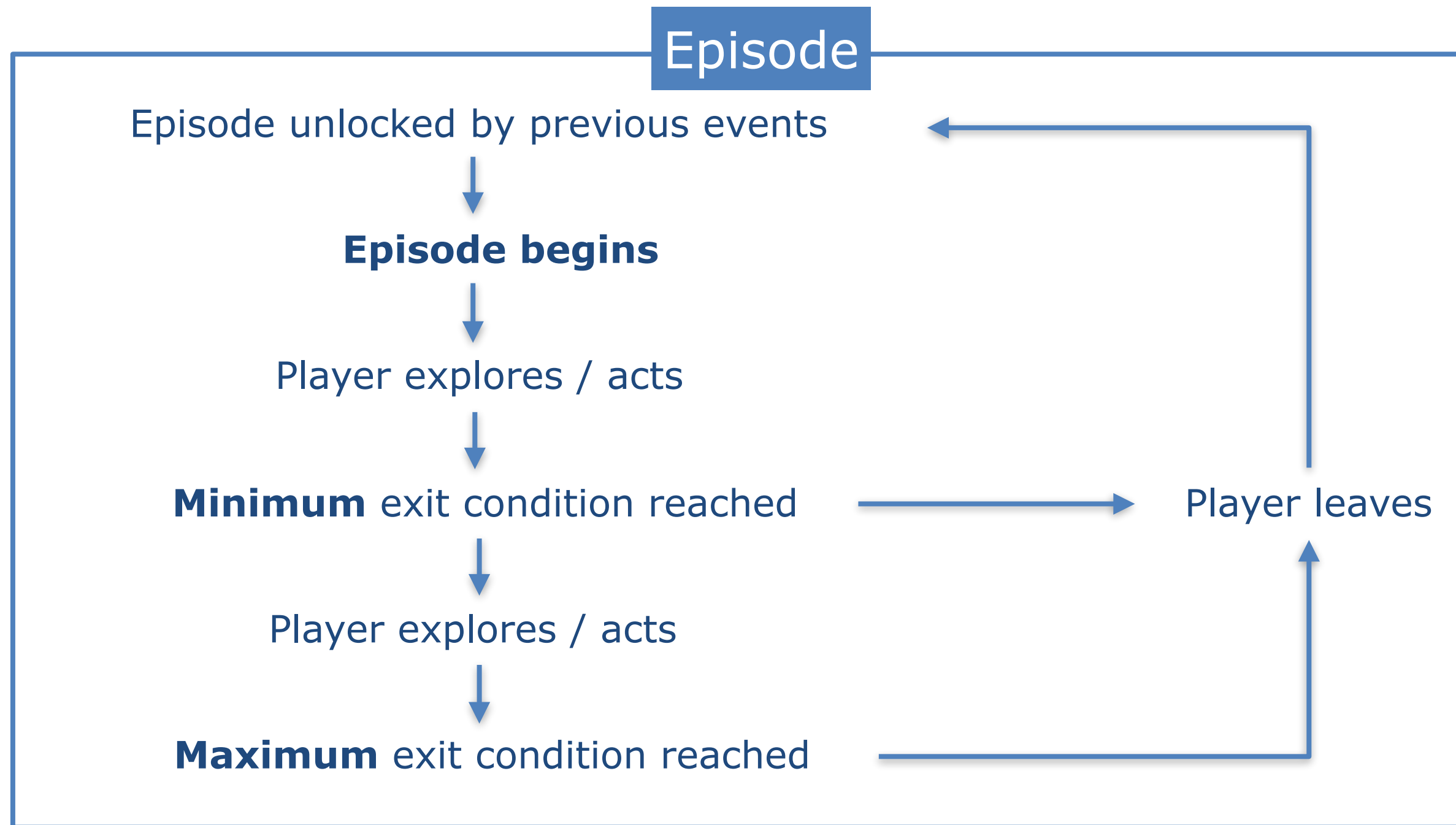| Moment	>	Room	>	Episode	>	Game
• Reactions • Dialogue		• Actions • Triggers • Commentary		• Deductions • Exit conditions		• Reflection • Synthesis
ink weaves (80 Days)		hub of choices (Sorcery!)		episode- specific ink thread		game wide ink thread

Episodes

Heaven's Vault structure

- Open world of locations - some revisitable, some once-only
- Player chooses a location to visit to continue the story
- Reaching a location initiates an 'episode' there
- Locations can only be chosen if there's a reason to go

Episode

Episode unlocked by previous events

Episode begins

Player explores / acts

Minimum exit condition reached ⟶ Player leaves

Player explores / acts

Maximum exit condition reached

Episodes are unlocked by *leads*

That's very nice but…

Some players find *everything*....
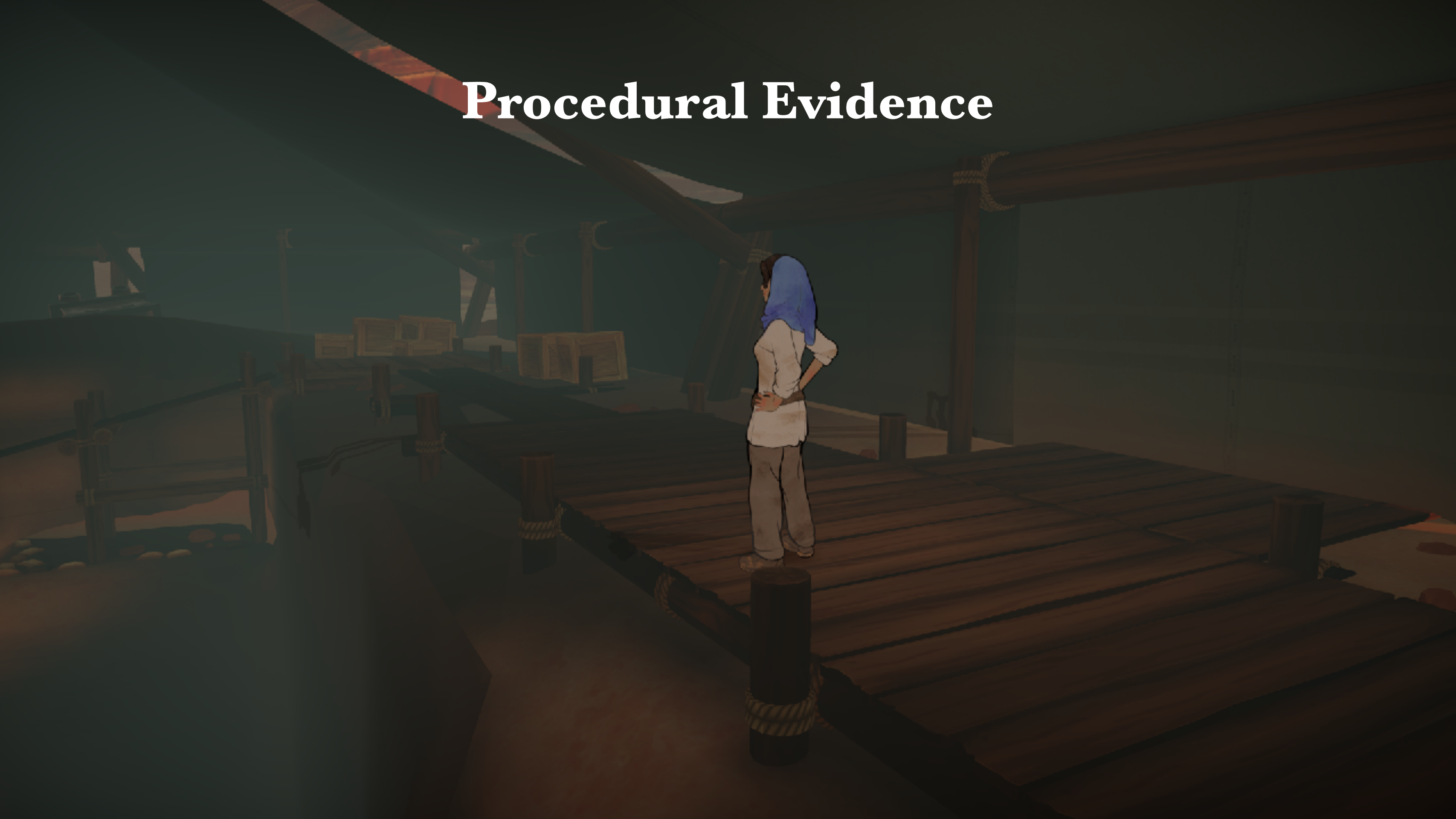
... some players find *nothing*

We want to ensure everyone discovers *just enough*

Procedural Evidence

Evidence is Procedural

Evidence is generated on demand and for-purpose

World-building

What objects *make sense* here?

Story

What does the player *need?*

I've found an ancient ring with the seal of an unknown king that was dropped here

Game

What would be *interesting*? (Avoid repetition!)

Evidence is Procedural

- No scouring
- Controllable unlock curve
- Writers do not need to balance 'real' information
- No redundant information
- "Better" players still rewarded

(We can also feed procedurally-generated clues directly back into the narrative via preconditions, so that's nice)

Content Chains are Fragile

- Dead ends!!

- Too many options

- Episodes get stuck in loops, repeat themselves, or otherwise embarrass themselves

- [Rubbish procedural clues: "a chipped antler jug shaped like a rabbit"]

800

Refresh Timeout: [ ] Exit States: [ ] WalkTalk: ☑ DontLogDirections: ☑ Autoplay: ☑ BASHING #locations to bash? Unkno[10]

X
Prologue (1)

Aquifer (0)

Emperor's Hideout (1)   Maersi (4)

Treasure Planetoid (1)   Renaki (3)

The Library of Future Knowledge (1)

Elboreth (8)   Iox (7)

Tiny Moon near Elboreth?? ayed Market (1)   Abandoned Mine (1)

Ruined Garden (1)

The Withering Palace (1)

Docking Crater (1)

Flying near Prologue

STORY -- sailing_conversation_hub

+ CALLED_TO_IOX_FOR_JANNIQI

-- scene ended --

STORY -- prologue_scene

Flying near Iox

STORY -- sailing_conversation_hub

+ OLD_RIVERS_IN_CLOUDS

+ LOOKED_INSIDE_CLOUD

+ FOUND_INSIDE_CLOUD

-- scene ended --

STORY -- iox_scene_look_for_janniqi

+ AGEPresent

[AOTEFACTO]

>>> END SHOT

Huang: I'll be back shortly.

>>> GOTO: Huang NPCWalkwayEnd3

Huang: It's truly a wonderful book.

Huang: A shame I can't understand _any_ of it.

Huang: It's wonderful that you can.

>El: I barely can.

Huang: That's not true.

>>> TRANSLATION: "eagle-shaped brooch" "holy Emperor" "AUTO"

>>> TRANSLATION: "Passage from the Annals" "the Emperor buried the robots" "SPACED"

>>> TRANSLATION: "robe" "we pray for new life / we pray for eternity / we pray for you / together we pray / we pilgrims pray / all pilgrims together" "AUTO"

>>> TRANSLATION: "box" "CharmEngraving" "AUTO"

Clues & Artefacts

Cast so far:

El, Six, BackgroundMan2, Myari, BackgroundMan3, Huang, BackgroundWoman3, BackgroundWoman5, Timor, Speaker, Trader, Tapi, Oroi, Toy, GreyPig1, BackgroundMan, Boy,

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- Javascript "spreadsheet" version of the game
- Built out of an early game prototype

Yay automated testing!

- Redrafting, checking continuity
- Pushes the complexity of the logic
- Game-wide balancing
- Ink flow bugs, including some rare engine bugs (!)

Issues

- Doesn't *understand* the content
- Doesn't test the 3D world content
- Yet more code to maintain
- Random play is a terrible simulation of humans

Conclusions

In Summary

‣ We have free-form, contextually-aware interaction in a 3D environment…

‣ … entirely made with authored, specific content…

‣ … via easily-editable blocks with simply logic…

‣ … though story frame-rate is now an issue

In Summary

‣ Efficient authoring patterns are *critical*

‣ Still use scale and redundancy in the text and dialogue itself

‣ *Any* automatic testing is good

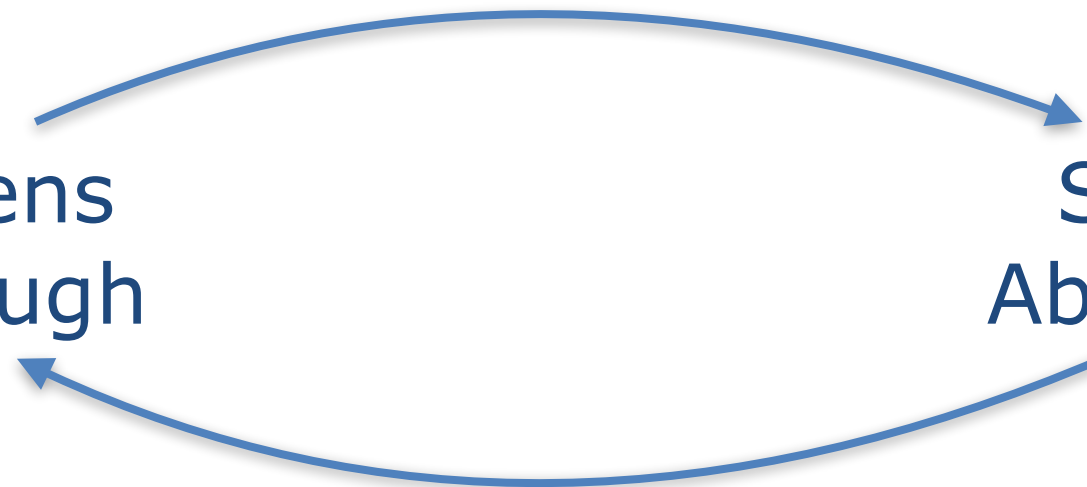‣ Art costs / 3D world markup more limiting than story complexity

A Parting Principle

Thanks for listening!

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