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<http://www.worch.com> and <http://www.witchboy.net>

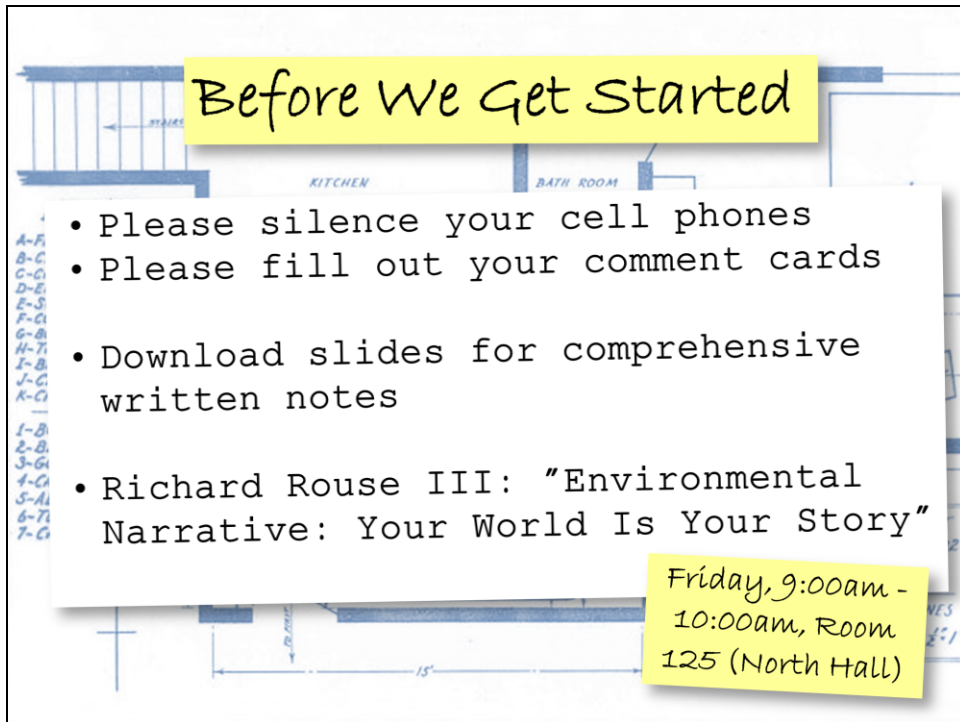


Welcome to “What Happened Here” - Environmental Storytelling, by Matthias Worch and Harvey Smith.

The image that you are looking at is one of our favorite environmental storytelling moments – if you’re wondering how two goldfish got stuck to a window screen 6 feet off the ground - and what this has to do with game development - stick around!

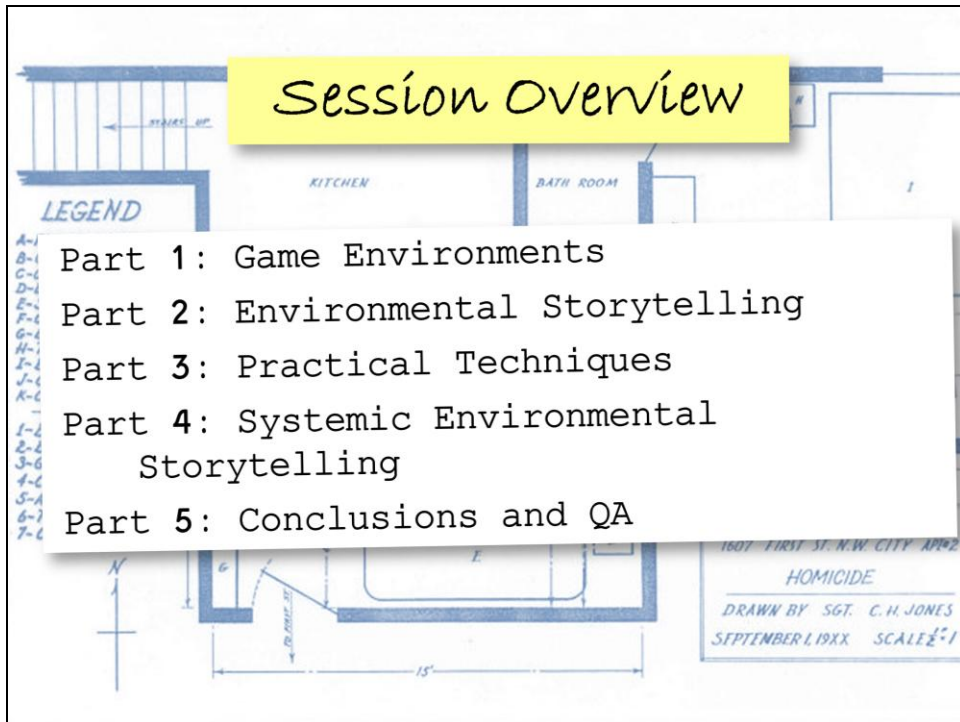
In this session we examine the game environment as a narrative device, with a focus on involving the player in interpreting information, in opposition to traditional fictional exposition.

We’ll dive into the theoretical foundation of the topic first and present practical examples from current games. After that we have some ideas to further the state of the art.



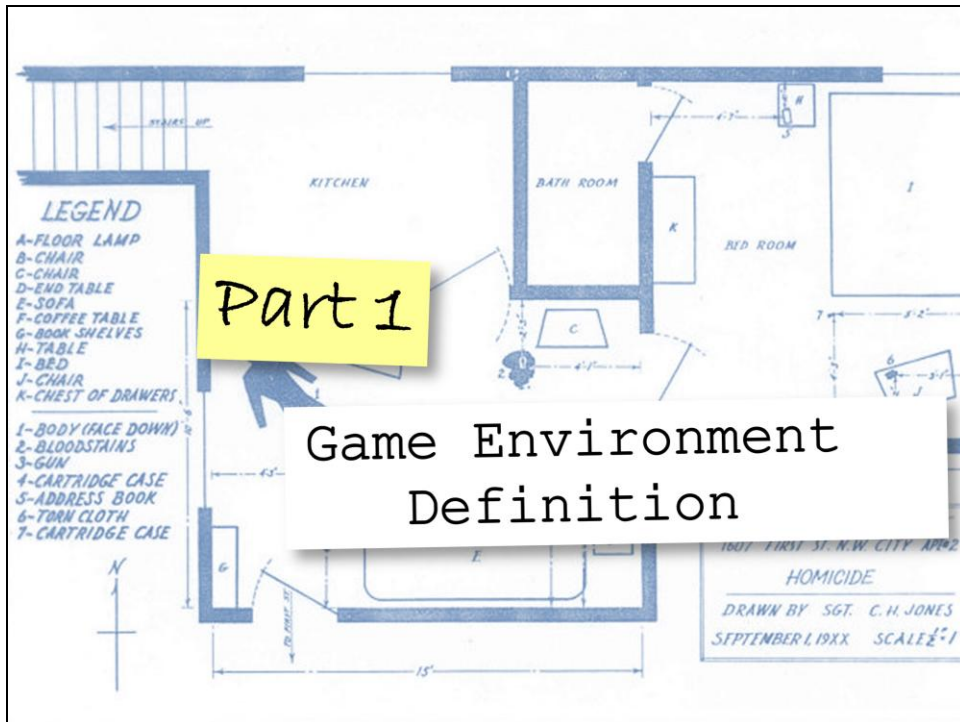
Before we get started, a couple of notes:

- Please set all phones to vibrate.
- Please fill out the comment cards - they help the advisory board make GDC better for all of us. All comments are passed on to the speakers as well, we welcome your feedback.
- This is the GDC version of the talk. A "director's cut" is also available.
- We would like to point out another GDC 2010 session, for a different take on this topic: Richard Rouse III: "Environmental Narrative: Your World Is Your Story".



Our session is divided into 5 sections.

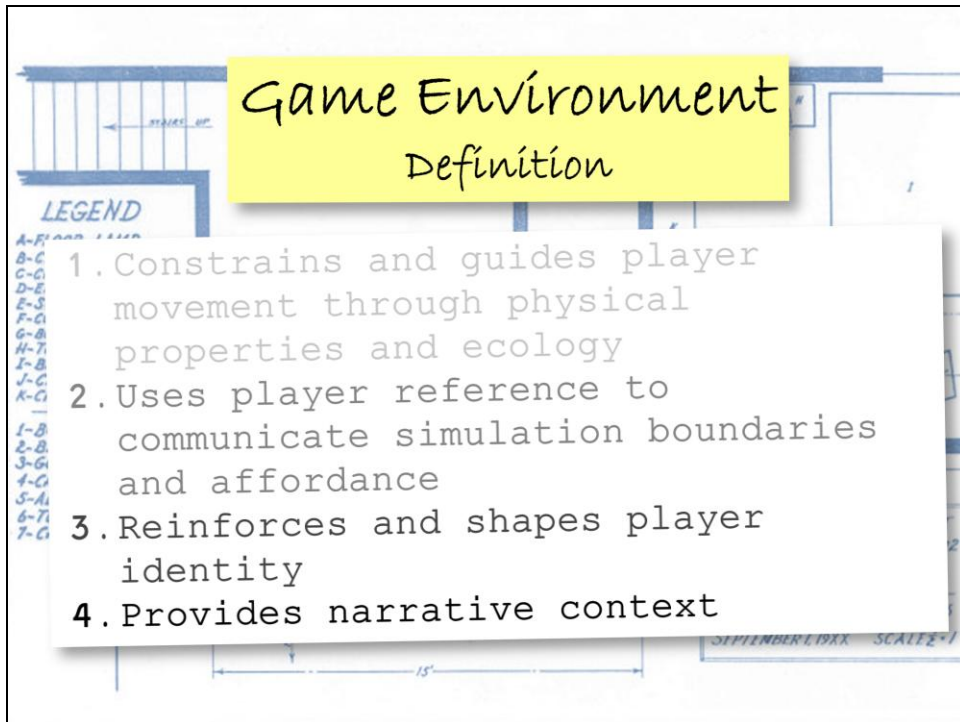
- In part 1, we lay foundation - we look at what a game environment actually is and what it represents
- In part 2, we present a definition for “environmental storytelling” and further this definition with examples from games and other sources
- In part 3 and 4 we look at the two main forms of environmental storytelling: designer-authored and systemic. We present practical techniques and some pie-in-the-sky ideas.
- Part 5 is conclusions and QA.



To effectively talk about this topic, we need to see how “environmental storytelling” fits into the bigger picture.

We need to gain a common understanding of what a game environment represents and which functions it serves.

Let's see how we can describe a game environment.



A game environment does a lot of things. It...

1. Constrains and guides player movement through physical properties and ecology
2. Uses player reference to communicate simulation boundaries and affordance
3. Reinforces and shapes player identity
4. Provides narrative context

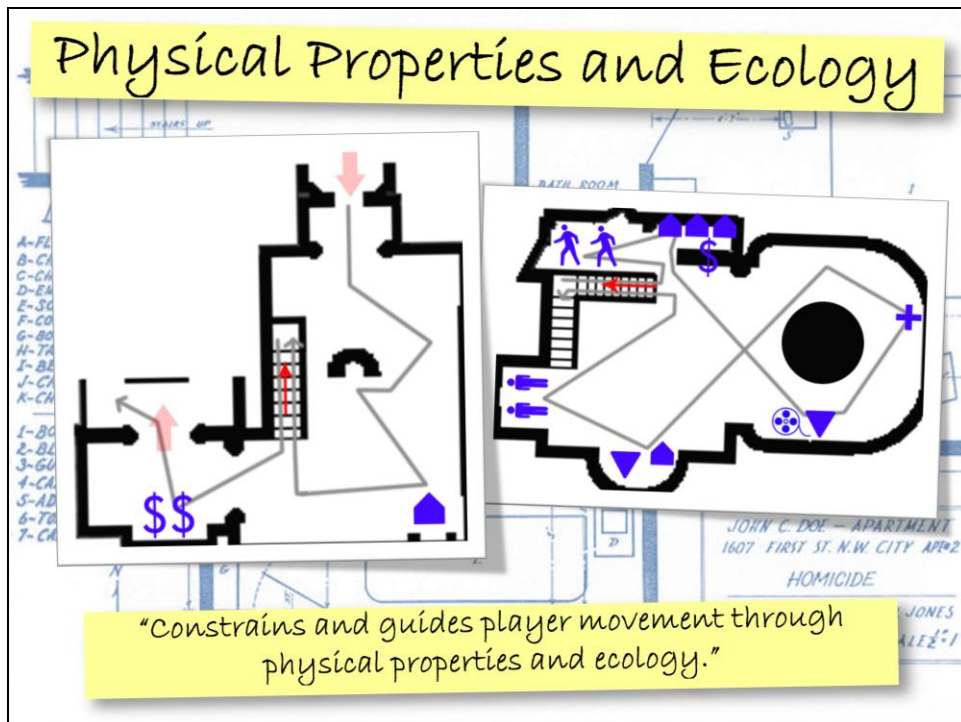
We're interested in environmental storytelling, which mostly lives in the last two bullets. So we'll just skim over the first 2 points.

Bioshock



A decadent new year's eve party gone wrong

We're going to reference this specific example a lot: one of the opening moments of Bioshock 1, a new year's eve party gone askew. I'm sure a lot of you have played this game and remember the area.



The level layout of this space demonstrates the idea that an environment “constrains and guides player movement through physical properties and ecology”.

- The physical properties are represented by the walls, staircase etc.
- The gameplay ecology is made up of enemy and item placement.

We can also see that a game environment represents access, and that the restrictions on access create decisions and meaningful play.

Communicate Affordance



"Uses player reference to communicate affordance."

Through the familiar visual reference, or affordance, the area itself communicates with the player.

- Here, the cash register implies money.
- The bar and booze signs imply alcohol.

The player understands the purpose of this place and has an idea of what resources might be found here.

Communicate Simulation Boundaries



Uses player reference to communicate simulation boundaries.

When it comes to simulation boundaries, Bioshock does a good job in this area. The entire game is indoors, which communicates the playable area well. There's a dance floor here, but cutting a rug is outside the focus of the game's core mechanics. The player quickly comes to understand the simulation boundaries in Bioshock.

Reinforces Player Identity



"The environment reinforces player identity."

Reference: "The Imago Effect"

So we've touched upon how game environments constrain and guide our movements, and how they communicate through familiar references.

We can also say that: "The environment shapes and reinforces the identity of the player."

Harvey did a GDC talk called "The Imago Effect", which covers the subject of how identity is in part performative and part shaped by context.

In short, games ask the player to assume an identity, contextualize this identity within a game environment, which in turn often implies or encourages social norms and behaviors.

Again, our Bioshock case study works well here because it's all about social experiments related to greed and morality, with an emphasis on societal recklessness, collapse and decay.

Reinforces Player Identity



Bioshock makes us feel at ease bashing and looting.

By contrast, how does the environment in Portal shape the player's identity? The environment makes you feel like a lab rat and lends itself better to a puzzle game.

We can see that the environment contextualizes experience and even exerts influence over the identity the player takes during play.

Narrative Context



The environment provides narrative context

So the main focus for the talk is this: “The environment provides narrative context.”

We're saying that the game environment, which has been derived from a fictional premise, can communicate

- the history of what has happened in a place
- who inhabits it
- their living conditions
- what might happen next
- the functional purpose of the place
- and the mood.

And when environmental elements are used cohesively, no one has to say anything...the world speaks for itself as the player moves through it.

This is what our talk is all about: Creating environments that furthers the story as the player advances through the game.

Environmental Storytelling

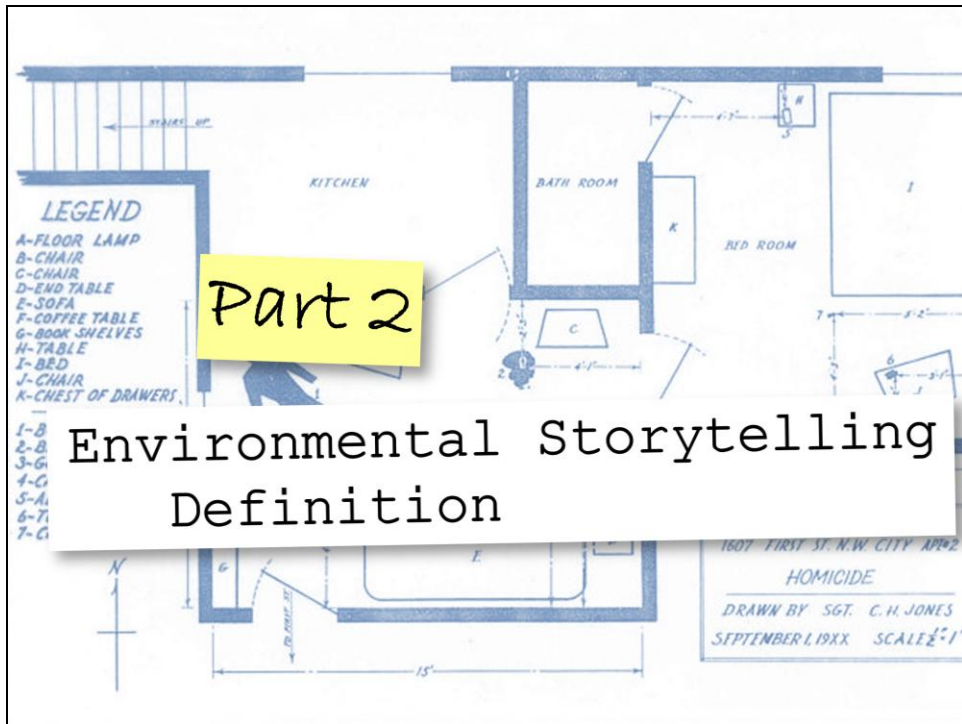


That's why we chose this Bioshock area as our first example:

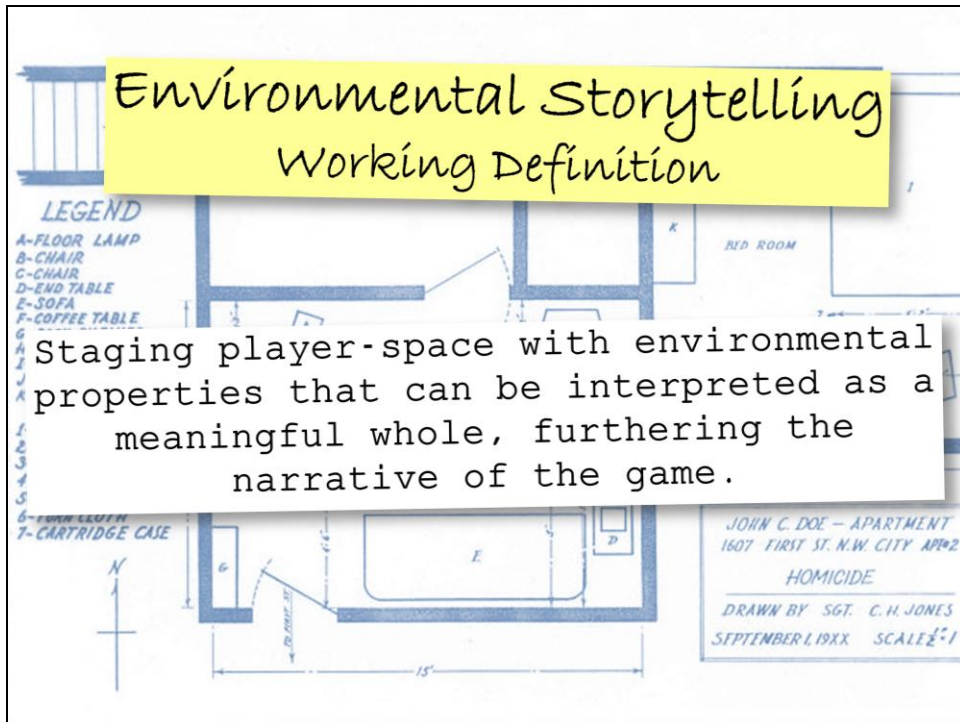
The trappings of a decadent party imply volumes about the state of Rapture just before its societal collapse.

This is also supported with recorded speech/dialogue. But much of the fiction and the associated mood are conveyed through props and textures alone.

Now we're going to dig deeper into environmental storytelling.

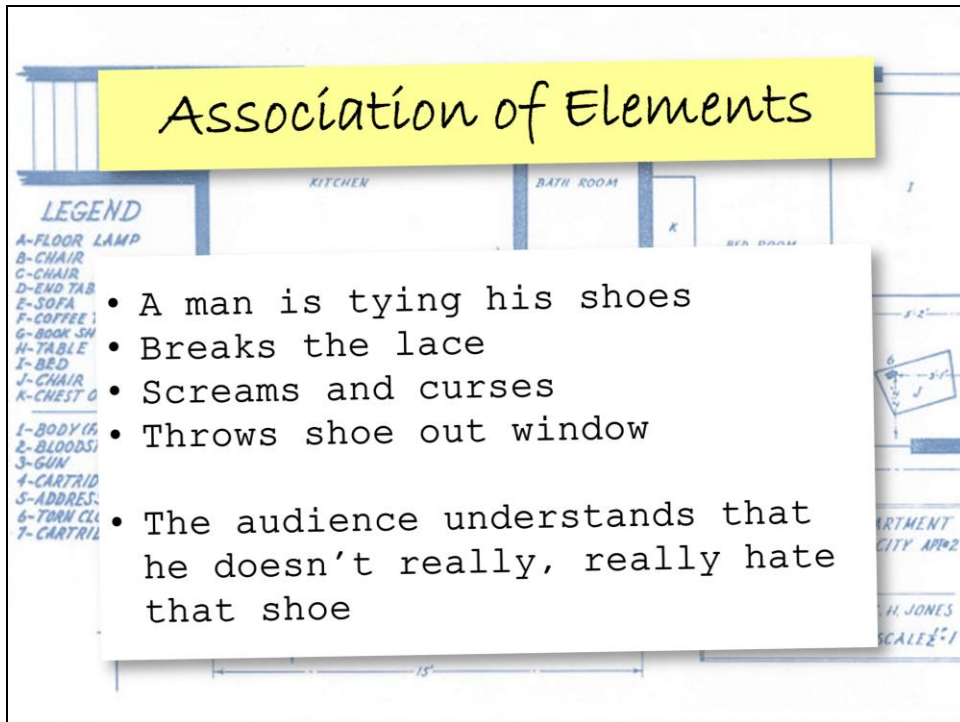


In part 2 we're going to take an in-depth look at what environmental storytelling does, and why.



Environmental Storytelling is the act of “staging player-space with environmental properties that can be interpreted as a meaningful whole, furthering the narrative of the game.”

In the next slides, we’re going to break this down into four functions.



At its purest, environmental storytelling is about putting 1 and 1 together.

Imagine a fictional scene, in which a man is tying his shoes. He breaks the lace, takes off his shoe to throw it out of the window, and screams and curses.

We all know what's going on here, right?

The man doesn't really, really hate his shoe - his underlying emotional state is making him angry at this, a largely unrelated, activity.

What we're talking about here is subtext, which transforms simple scenes into something with a deeper meaning. To understand this scene, we have to make a connection.

Association of Elements

LEGEND

A-FL
B-CA
C-CA
D-BA
E-SG
F-CO
G-BO
H-TA
I-BE
J-CA
K-CH
—
L-BG
M-BL
N-GU
O-CA
P-AD
Q-TB
R-CA

- Similar to embedding narrative elements in the background of a scene

“Environmental storytelling relies on the player to associate disparate elements, interpreting them as a meaningful whole.”

- Film fails to define this for games because of directed gaze

In game terms, this is similar to embedding narrative elements in the background of a scene.

So this is our first function: “Environmental storytelling relies on the player to associate disparate elements and interpret as a meaningful whole.”

But in a practical sense this example is weaker, because it’s film-based. It directs our gaze and focuses our attention.

In games, we explore.

So let's find an example that requires some "exploration" of the environment.



Which brings us back to the image that we started out with: two goldfish, stuck to a window screen, 6 feet of the ground.

"What Happened Here?"

Any ideas? If you DON'T already know the answer, holler them out before I solve it!

Let's see how your guesses match up against what happened here.



First, we'll pull back a bit further to reveal the entire window. That doesn't give us too much new information.



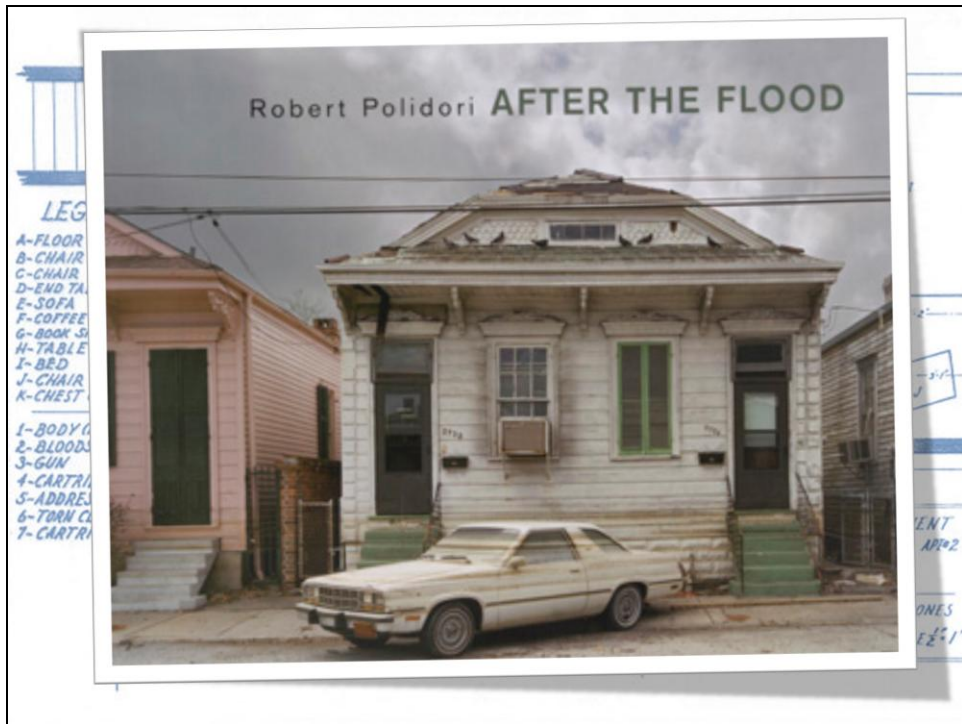
Next, we turn around, to get a reverse view of the window.
Lots of mold and water damage. And notice that the couch is standing on the coffee table!



Let's go to the immediate neighborhood.

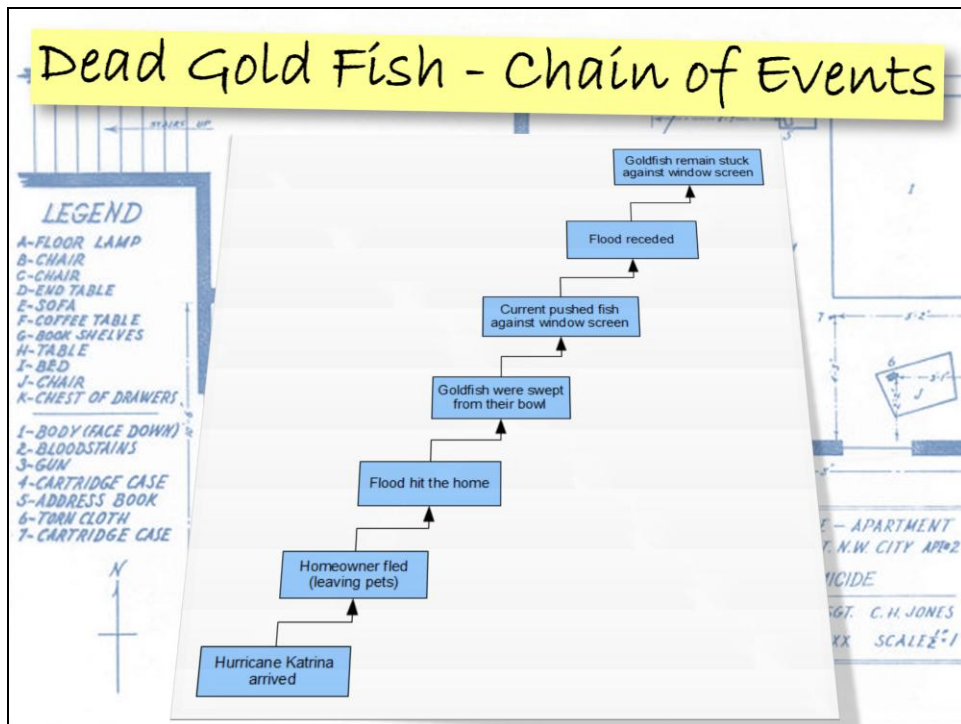


And finally, pull back to reveal a bird's eye view of the area.
At this point, you might have a pretty good idea what the context of this goldfish
example is.



It's Hurricane Katrina.

These images come from "After The Flood", a book by photographer Robert Polidori, who went into New Orleans just days after the hurricane ravaged the city.



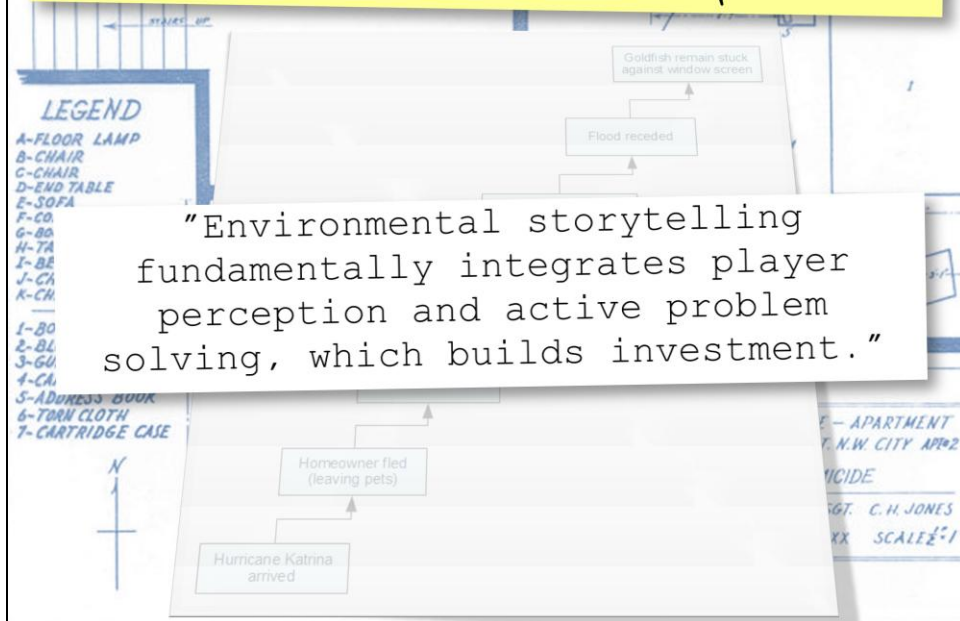
And armed with this context, we can also make sense of how those goldfish ended up dead against the window:

<See chart> In the end, the goldfish remain stuck against the window mesh, as a chilling reminder of the events that transpired here.

That is pretty damn cool in my book (as far as a catastrophe goes, of course), and shows the power of environmental storytelling.

We were able to arrive at this conclusion by combing all the clues from the surrounding area.

Dead Gold Fish - Chain of Events



"Environmental storytelling fundamentally integrates player perception and active problem solving, which builds investment."

And based on that action, we can say that environmental storytelling "fundamentally integrates player perception and active problem solving, which builds investment."

After The Flood

Is the clock
frozen in time?

Notice the
water line.



After the Flood is full of stories like the goldfish one.

It's a sobering book, worthy of a closer look that we don't have time for in this lecture.

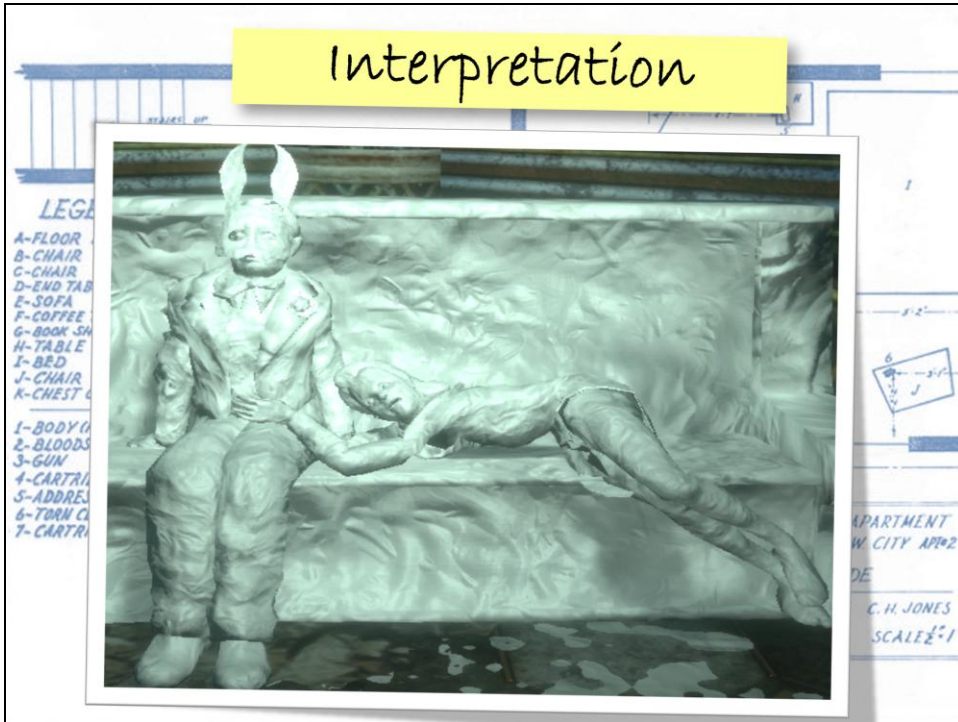
But each image poses that question: "What happened here?"

And we're eager to figure that out.

That doesn't mean that we all come to the same conclusion, though.

As we're looking at these situations we find clues everywhere - but those clues can be interpreted in different ways.

Interpretation



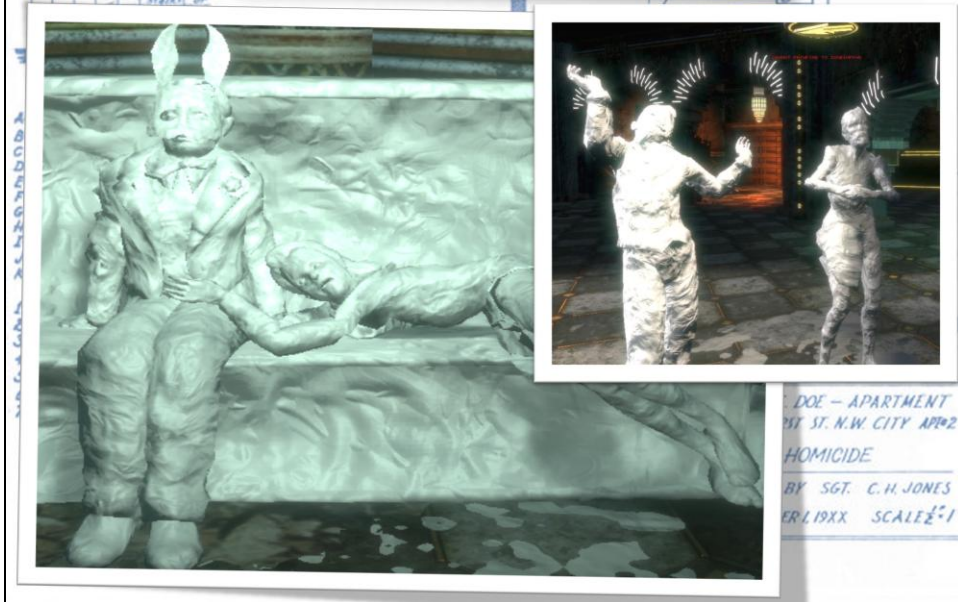
That's another interesting property of environmental storytelling: it's open to interpretation.

This is screenshot from Bioshock, past the mid-point of the game. This is a level in which the player goes up against a theater and show-obsessed madman by the name of Cohen.

Our interpretation of this scene is this: Someone from "the party" got frozen in the middle of a BJ. Ice is used everywhere in this level, the player has an ice plasmid, so this reaction made a lot of sense.

The official explanation by designer Jordan Thomas (who went on to become creative director on Bioshock 2) is quite different:

Interpretation

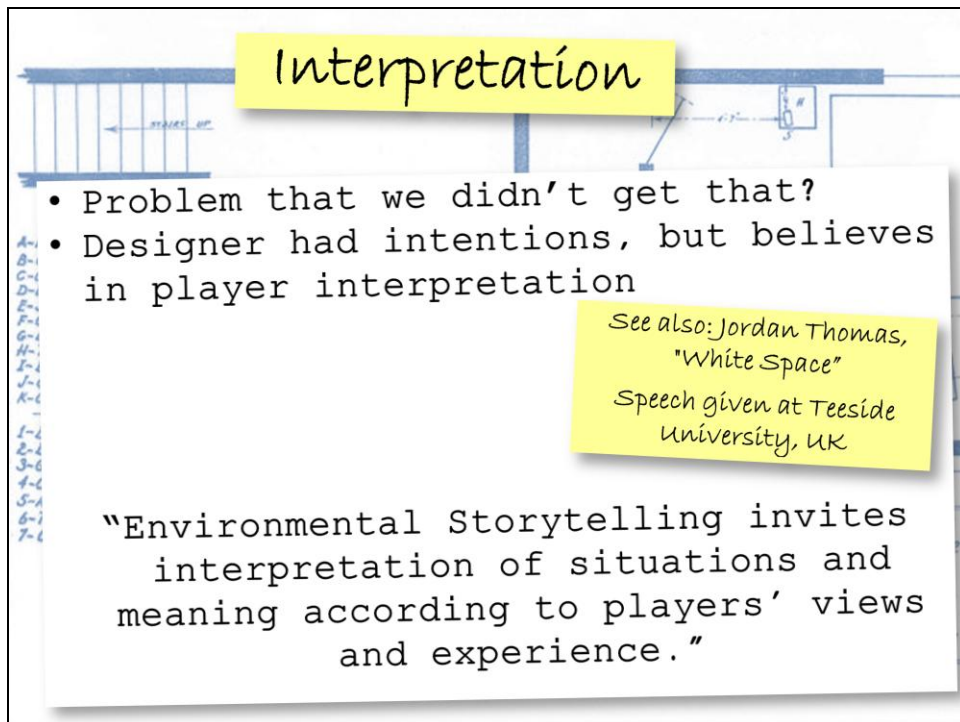


There are plaster scenes like this one scattered all over the environment, and each represents a vignette from Cohen's life.

This particular scene is of a woman that was trying to arouse him but simply didn't succeed leaving him sort of locked in the moment.

Most of the scenes in this level highlighted moments where Cohen felt emotionally or sexually repressed, tending more towards a feminine than masculine outlook.

The mask had additional symbolism to the Jordan.



Clearly, Jordan put some serious thought into these setups.

But is it a problem that we didn't get all that?

We don't think so, because these setups – while indicative of a complex world with intricate backstory – are not fundamental to understanding the main narrative.

And Jordan Thomas himself strongly believes in white space (as evidenced by his speech of the same name at Teeside University). Every player is going to bring his own views, experience and frame of reference to the scene, and come to different conclusions.

So environmental storytelling "Invites interpretation of situations and meaning according to players' views and experience."

There are cases when we want the message to be unambiguous, though... especially when it affects gameplay. Next, we'll look at an example where environmental storytelling does bleed over into play. In the use of telegraphing.

Telegraphing

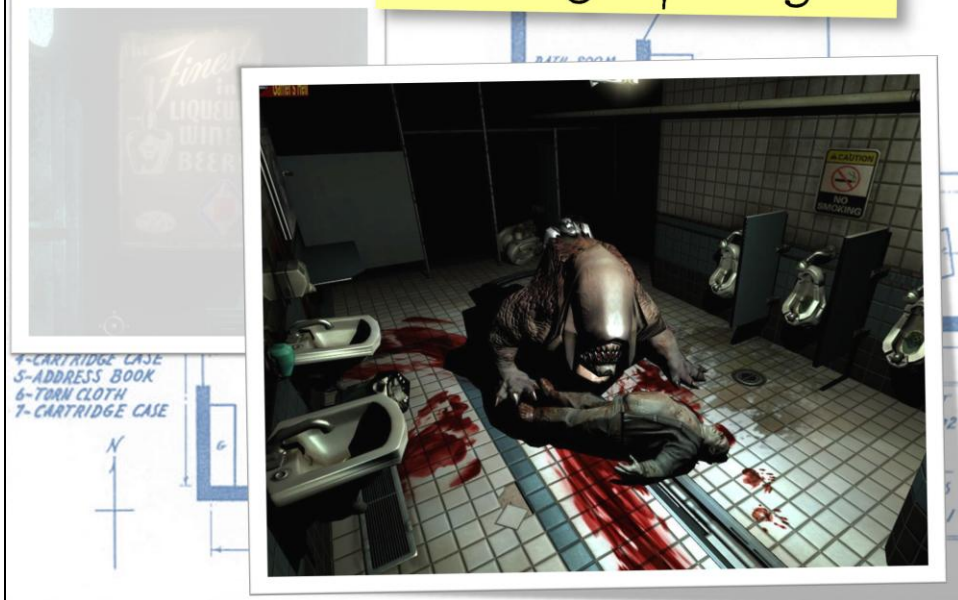


Earlier on, we concluded that game environments use player reference like signs and posters to communicate affordance. Signs are usually taken at face value.

We're more interested in weaving gameplay hints into the environment, creating a mini story that can be picked up by the observant player. But too often, these moments are simply there as backdrop, assembled at random.

But we can do more with them.

Telegraphing



In this Doom 3 example, bloodstains leading into a bathroom telegraphs the presence of a monster.

The player can prepare - load his gun - or choose to entirely avoid the area.

Telegraphing



"Can help the player navigate an area by telegraphing. "

This dead NPC sizzling in a fence points out real environmental dangers to the player. Just like the trail of red blood leading into a dark room helps the player prepare for what's ahead.

Environmental storytelling "can help the player navigate an area by telegraphing."

Environmental Storytelling

- Relies on the player to associate disparate elements, interpreting them as a meaningful whole.
- Fundamentally integrates player perception and active problem solving, which builds investment.
- Invites interpretation of situations and meaning according to players' views and experience.
- Can help the player navigate an area by telegraphing.

In this section, we've broken down our top-level environmental storytelling definition. To recap, environmental storytelling

- Relies on the player to associate disparate elements, interpreting them as a meaningful whole.
- Fundamentally integrates player perception and active problem solving, which builds investment.
- Invites interpretation of situations and meaning according to players' views and experience.
- Can help the player navigate an area by telegraphing.

So now we know what environmental storytelling can do for us. But we don't necessarily know *why* it does this.

Let's look at some of the reasons why interpretation is more compelling than exposition, so that we can use the technique to its fullest effect.

Why Is This Compelling?

- It's *active*; it involves the player
- Player brings his own experience, so the act of interpretation gains personal meaning
- The player is *pulling* the narrative, which makes it self-paced, less expository

See Jean Piaget!

One term we've used repeatedly in our definition is the word "interpretation." We've said "The player *interprets* disparate elements as a meaningful whole," and "Environmental storytelling invites *interpretation* of a situation based on the player's personal views."

So the question we really have to answer is why that act of interpretation is compelling to us. What that really comes down to is the fact that environmental storytelling is active.

Swiss psychologist Jean Piaget showed that play, discovery and interaction are key to learning.

This active approach to learning creates participations, which breeds investment. Students and player alike brings his own experience, so the act of interpretation gains personal meaning.

"Active" also means that the story isn't shoved down the player's throat – quite the opposite, discovery is self-paced. The player is **pulling** the narrative. This leads to a familiar world, which is self reinforced, more complete, and more immersive.

Why Is This Compelling?



To give you an example: there's a setup in Fallout 3 in a child slaver's den.

- Lounge tables near dance poles
- Booze
- Manacles on a pole
- And a teddy bear

Wow, that's terrible conclusion we arrive at.

It's important to remember that we never saw the act. It's a mental leap; we are hard-wired to draw these conclusions.

We didn't see children getting tortured for entertainment - the act happened inside the player's head.

The concept behind this is the Law of Closure. As humans we have an innate need to categorize and fit visual elements into a larger framework. To do so, we draw conclusions.

Scott McCloud applied this concept to visual storytelling in "Understanding Comics."

“What's important is what happens between the panels.”

Implying a Larger World

"What changes *Guard_03* from an abstract obstacle into a person? Did someone get hurt in this alley? What does the innkeeper do with his free time? Answering these questions transforms the game space into a coherent world. Meaningful narrative is inferred by players if you give them cues but leave them the space to imagine."

- o Steve Powers, Disney

This quote from Steve Powers sums up this section perfectly.

Steve is a long-time advocate of letting the player fill in the gaps. He's worked on the Ultima games, the Deus Ex series and is now working on Epic Mickey for Disney.

"What changes *Guard_03* from an abstract obstacle into a person? Did someone get hurt in this alley? What does the innkeeper do with his free time? Answering these questions transforms the game space into a coherent world. Meaningful narrative is inferred by players if you give them cues but leave them the space to imagine."

Implying a Larger World



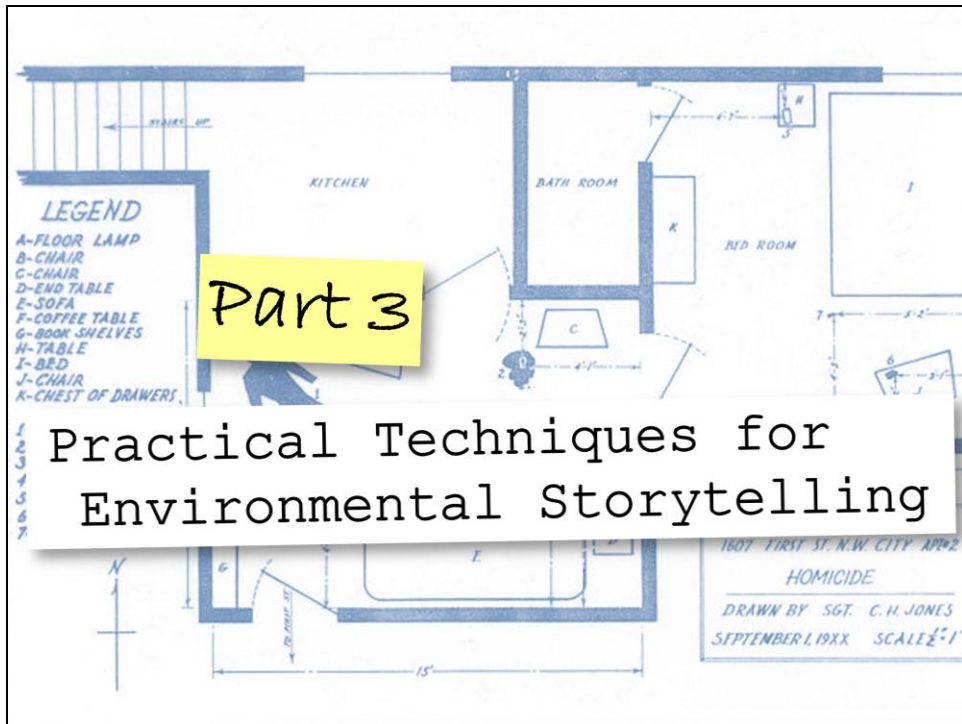
Steve Powers, everybody!

Part 02 Summary

- Relies on the player to associate disparate elements, interpreting them as a meaningful whole
 - Interpretation is compelling
- Fundamentally integrates player perception and active problem solving
 - Builds investment
- Invites interpretation of situations and meaning according to player's views and experience
 - The Law of Closure
- Helps the player navigate an area by telegraphing

We can categorize these functions of ES into the "what" ("what does it do for us?" - in black) and the "why" ("why does it do this?" - in green).

The key finding behind from this section is this: Environmental storytelling creates game spaces in which the player is fundamentally invested and immersed in.



Now that we have a good idea of *what* environmental storytelling is, and *why* it can do for us, we should look at some practical techniques.

First, we'll look at creating designer-authored storytelling environmental storytelling moments. That seems to be the current industry standard/status quo, where pre-existing props are arranged to say something about a situation.

Practical Techniques

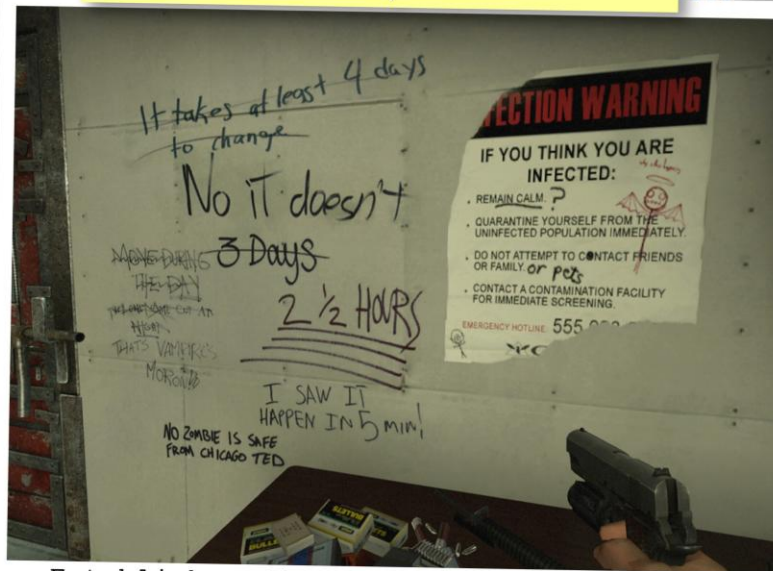
LEGEND

- Establish a discernible chain of events
- Ensure that event engages the player
- Echo the world at large
- Create characterization
- Minimize disconnects between the player's possible actions and pre-scripted setups

DRAWN BY SGT. C. H. JONES
SEPTEMBER 1, 19XX SCALE $\frac{1}{2}'' = 1'$

Here we have a list of tips to make your job of creating these moments easier. We'll go through these one by one.

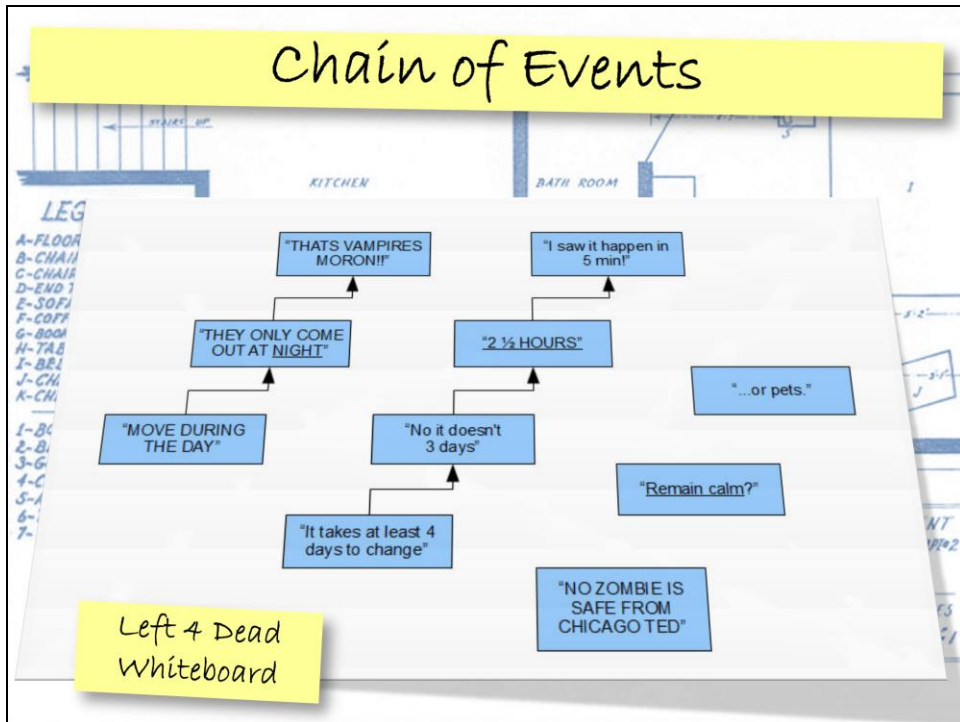
Chain of Events



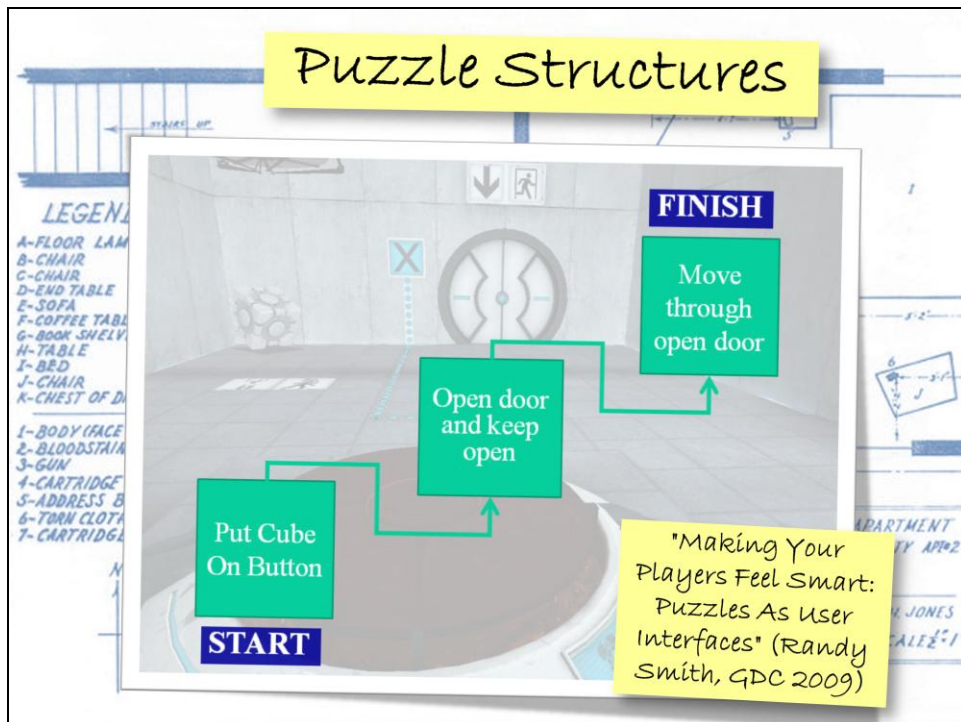
Establish a discernable chain of events!

Let's start with our first, quite obvious technique: "Establishing a discernible chain of events."

Environmental storytelling is often about cause and effect, as is intuitively apparent in this L4D example: one person wrote on the wall, other survivors felt compelled to comment on his writing, and we ended up with several days worth of commentary.



Expressed as a chain of events, the Left 4 Dead example looks like this: The commentary is running on a couple of separate tracks, with some outliers.



We've been representing these chains of events with flow charts.

In fact, these charts are adapted "puzzle structures" from Randy Smith's 2009 GDC talk: "Making Your Players Feel Smart: Puzzles As User Interfaces".

We suggest you look up that presentation for much more background on designing and visualizing good puzzle design.

Puzzle Structures

- Try authoring puzzle structures for your environmental storytelling setups

Set Dressing

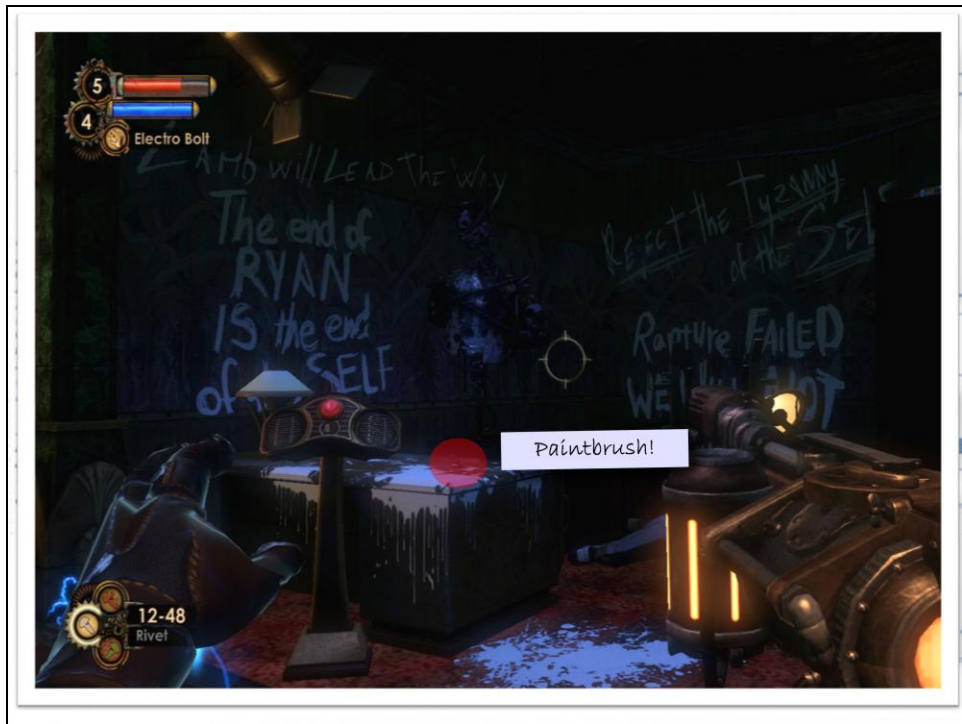
- When placing pieces of set dressing, figure out how pieces of set dressing connect

Consider authoring some of these puzzle structures for your design docs. They get all LDs and environment artists on the same page and into the same habits and force everybody to think about the chain of events that lead to a scene.

When dressing up the scene, think about how these elements connect. This is how we take the act of simple environmental jumbling to the next level:

- Placing a cup of coffee in an odd place.
- Offsetting a chair in front of that table a little bit.
- Maybe it was hastily pushed over.

Think about what happened there. A single prop can transform the scene.



One of our favorite moments from Bioshock 2 happens during the amusement park ride: an animatronic version of Andrew Ryan has been hung, splattered with white paint, and Prof Lamb propaganda has been painted on the walls behind him. That's cool but hardly unique in BS2. What sells the scene is the paintbrush left on the table.

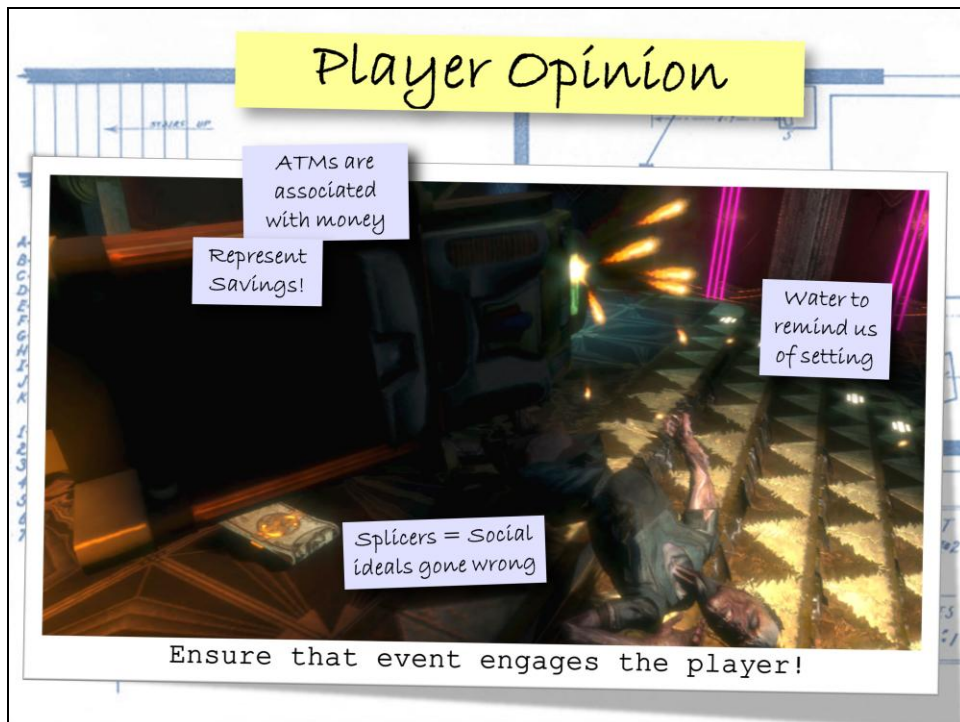
Player Opinion



Ensure that event engages the player!

Now we've created a little story out of elements. But that isn't enough. We need to make that story compelling. That means: "Ensuring that event engages the player."

In this example, a Bioshock splicer was crushed by a vending (ATM?) machine.



There's a lot of subtext and associations here.

- ATMs are associated with money and represent other people's savings
- Trashing an ATM (or stealing from it) is frowned upon by society
- Splicers represent social ideals gone wrong
- Water reminds us of Rapture's setting

In good environmental storytelling the elements combining to a larger picture, but have individual significance as well. An anonymous rock wouldn't have work as well.

Player Opinion



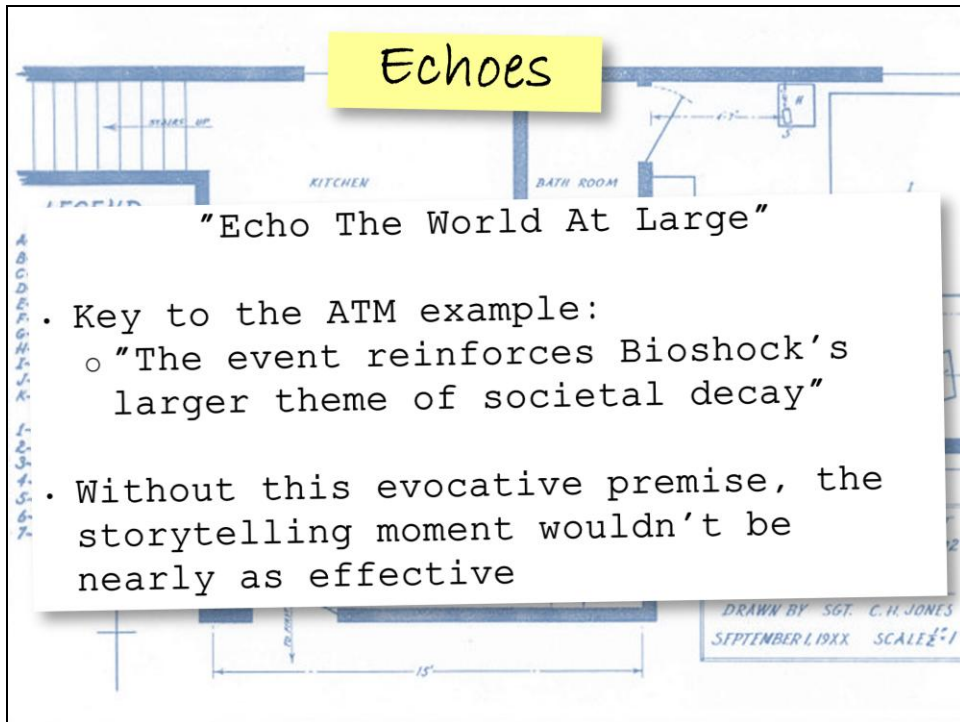
Ensure that event engages the player!

The result of combining elements that already have inherent meaning:

- The event is more than just a creative death moment
 - It reinforces Bioshock's larger theme of societal decay
- The presence of the money pickup is explained and contextualized
- It examines player actions:
 - Our reaction to this guy's death might be "serves him right" – but why is it okay when we loot and steal?

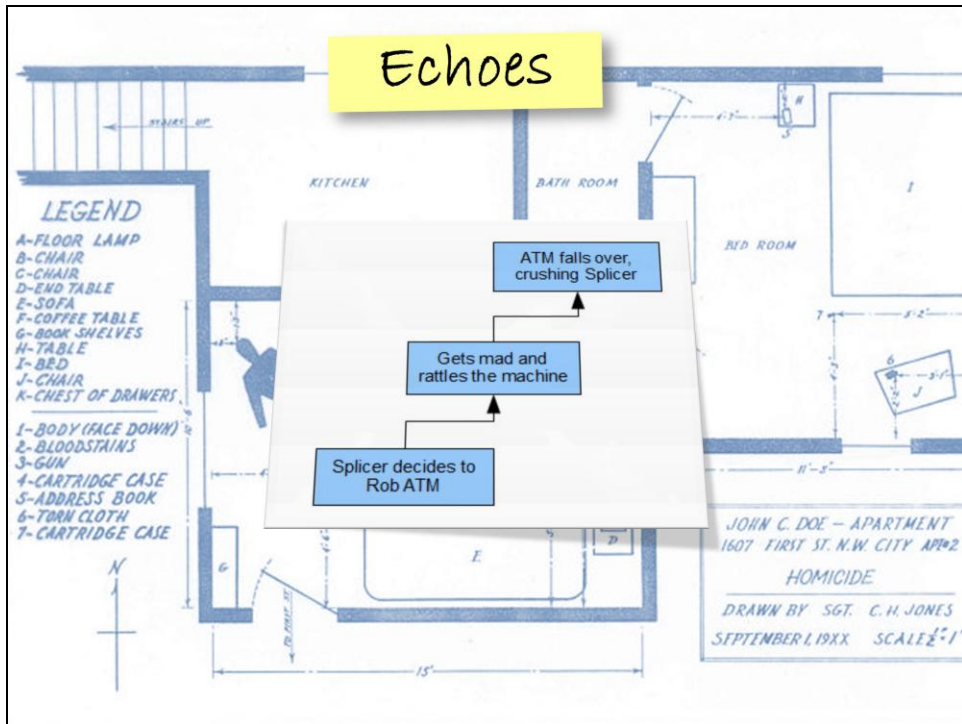
Now we've connected disparate elements and turned them into stories, and given these stories meaning.

There's one key phrase in this section, which leads us to the larger theme of echoing the world at large.

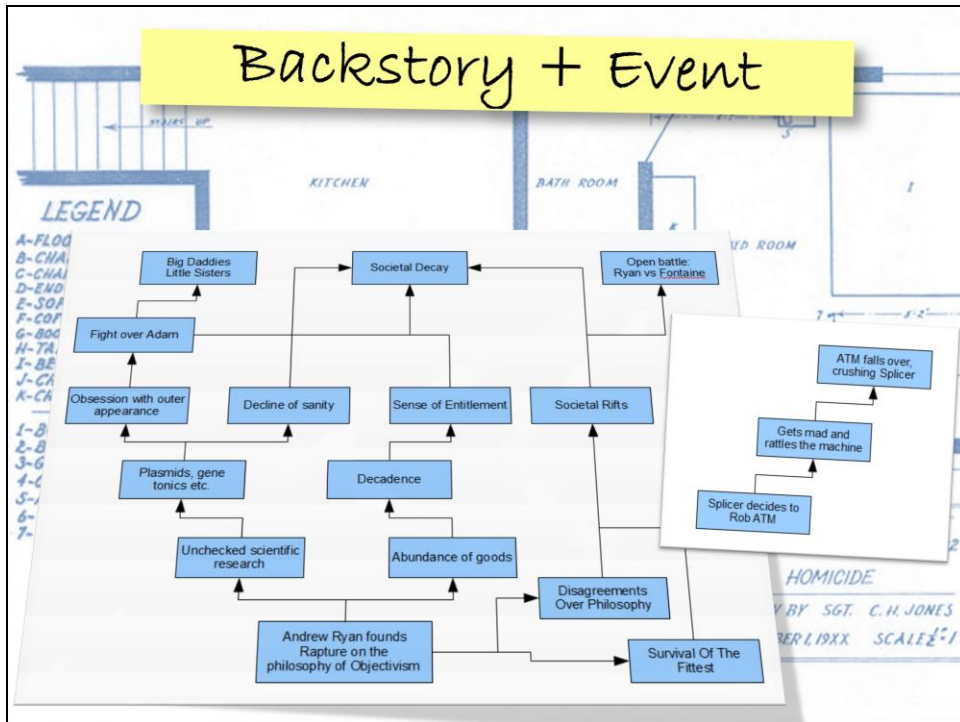


That key phrase is "The event reinforces Bioshock's larger theme of societal decay."

Without this evocative premise, the ATM storytelling moment wouldn't be nearly as effective.



If we really think about it, the ATM example we just used is pretty anemic. Here's the puzzle structure for that event.



But if we really think about it, there's a lot more that lead to this situation. There's the entire underpinnings of Rapture and the events that lead to the beginning of the game, and that chain of events is exceedingly complex (the chart is an example and not necessarily a comprehensive summary of Rapture's rise and fall!)

So really, the ATM event rests on a much larger foundation, and when put together, we end up with something that is just as complex and compelling as real life.

Echoes

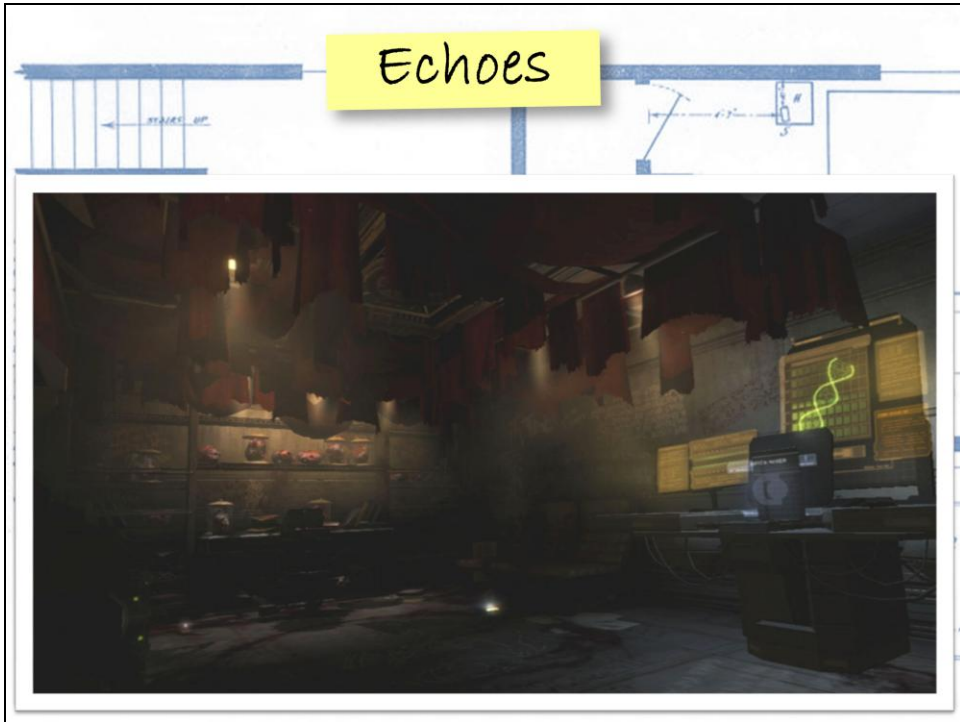
- Environmental storytelling moments should draw from the story premise:
 - Self-reinforcing loop
 - Premise spawns events, events remind player of premise



Which brings us to another important guideline: Make sure that all ES moments draw from your story premise, echoing the world at large. Every anonymous ES moment wastes the opportunity to say something about the game.

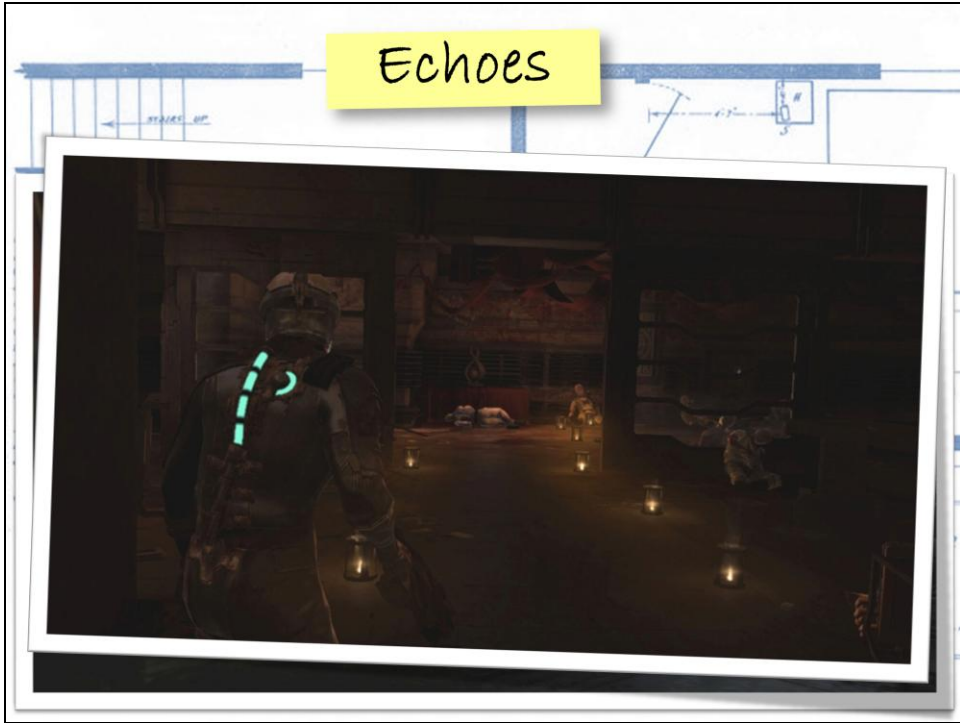
By tying the storytelling moment into the premise, we create a narrative positive feedback loop:

- Premise spawns events
- Events remind player of premise

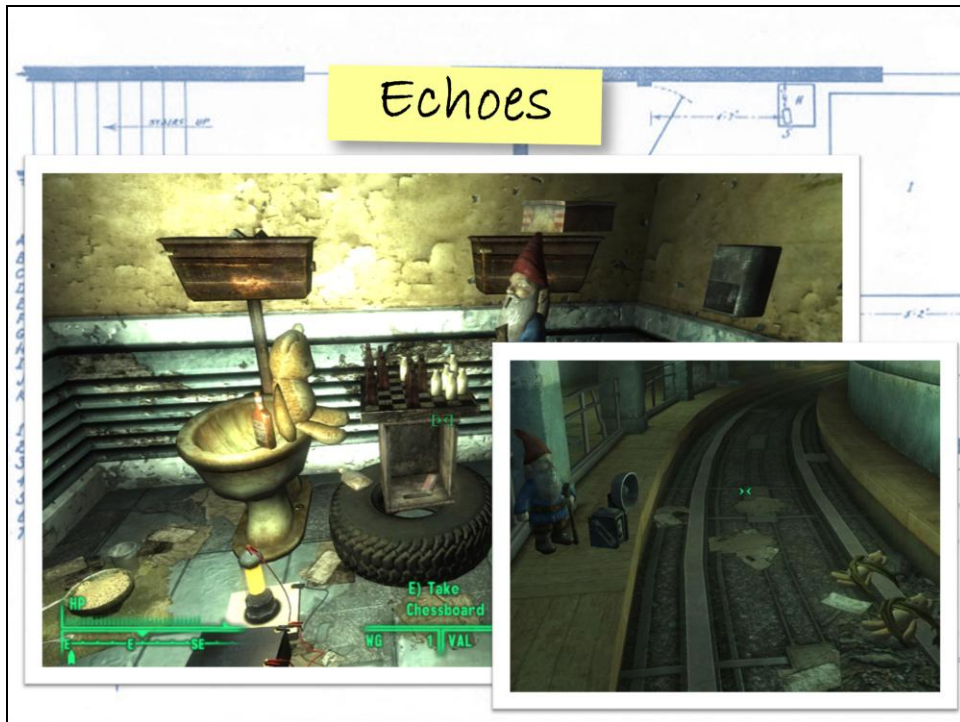


These shots are from Dead Space follow that rule, creating environments that build on the game's theme of religious fervor, dementia and occult.

Echoes

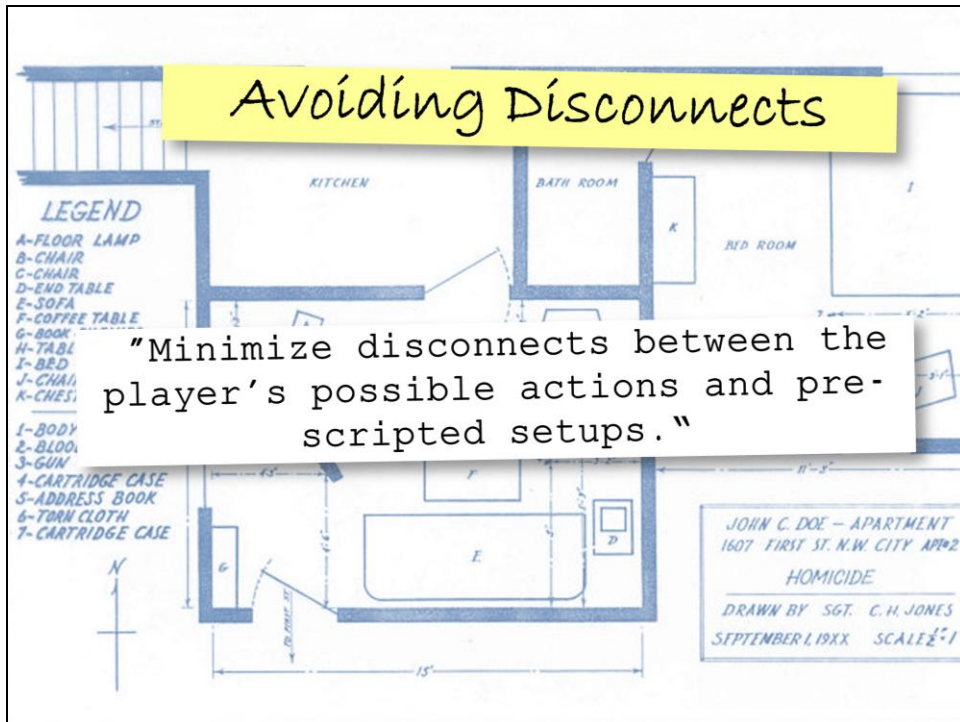


These shots are from Dead Space follow that rule, creating environments that build on the game's theme of religious fervor, dementia and occult.



This highly detailed world helps in another way: it makes the player to do the heavy lifting, sorting each situation - no matter how silly - into the larger framework.

These shots from Fallout 3 might look humorous, but because they come from the same, fully fleshed-out, world that gave us the example of the child slavers camp earlier, we're looking for ways to explain these setups. Maybe survivors got bored, or maybe kids snuck into a dungeon and played with debris.



Besides these tips, we want to point out one inherent danger of designer-scripted environmental storytelling: A disconnect between what the player can do and what the game depicts the non-player characters doing can be jarring.

Avoiding Disconnects



The "Two Lovers"

Here we have a scene of two characters laying in bed, having died with their arms around one another.

This scene from Fallout 3 is probably okay, because the game isn't a love simulator and because the player is accustomed to moving through the world looking at the wreckage of society.

But if this took this any further, this moment might feel hollow:

- The player has no real relationships with characters that would justify such an intimate action
- The game environment and time stream cease to exist after the player-character's death. (Some games show a monster gnawing on the player-character's bones, post mort, but that's where the story ends.)

We're looking at simulation boundaries, and our environmental storytelling moment is pointing them out graphically.

Avoiding Disconnects



Can we get on a motorcycle and play Evil Knievel?

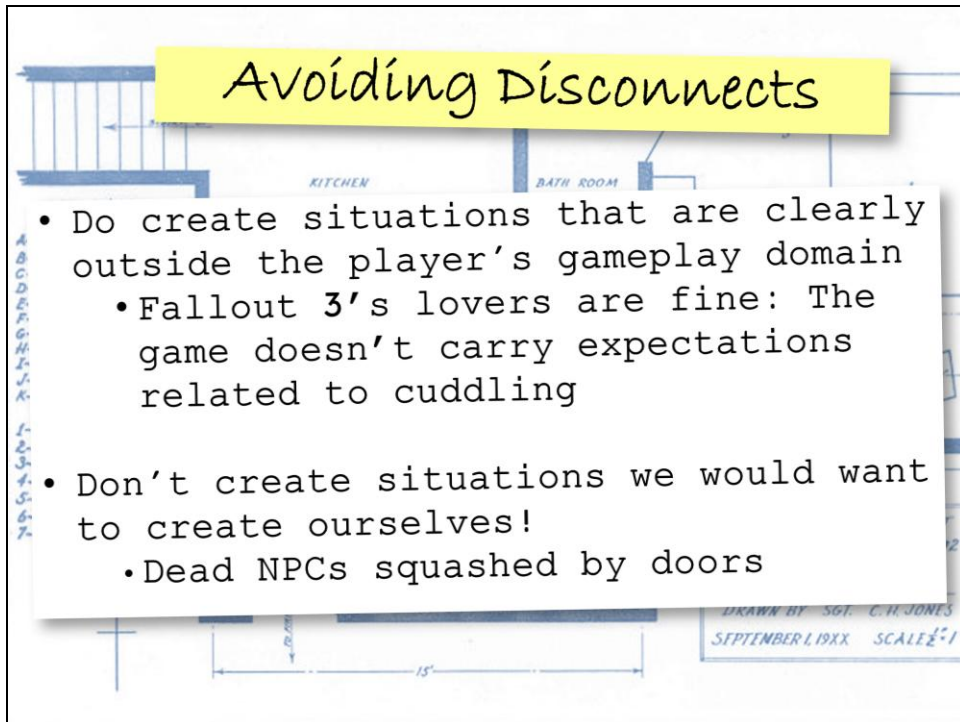
Here's another example that we really like a lot:

Somebody built a ramp in the sewer system and tried to play Evil Knievel.

But... can we play Evil Knievel?

What does this moment say about the game? Fallout 3 is a game heavy on traversal. Does this example remind us of things that we can't do, drive around the wasteland on a motorcycle?

Once again, the example is probably okay, because Fallout 3 never communicates the possibility of drivable vehicles elsewhere in the game, and the bike looks sufficiently broken.

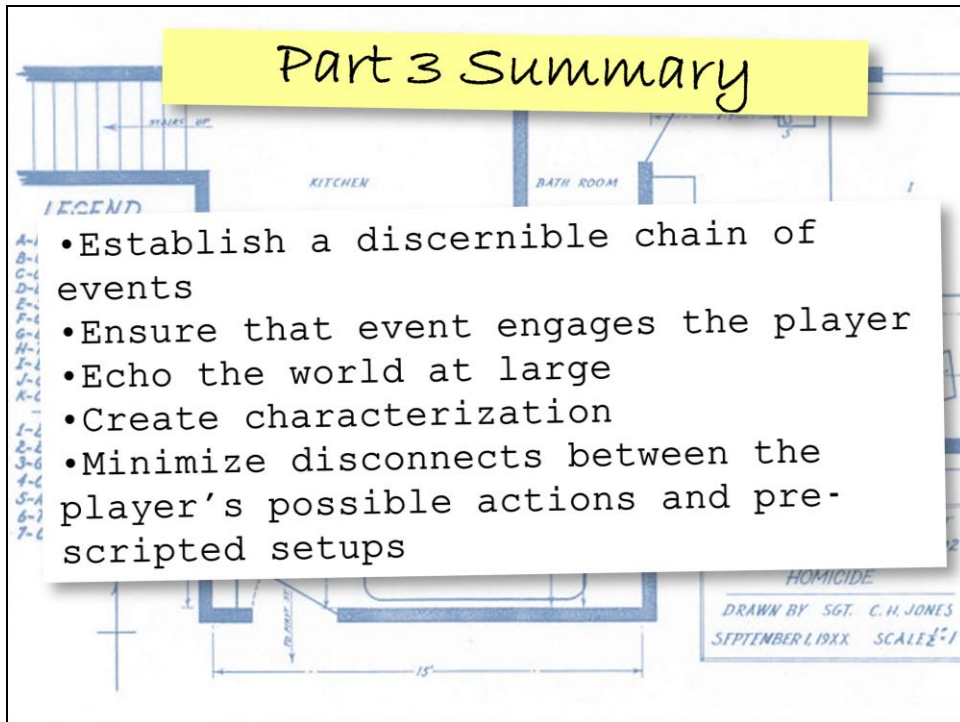


The line is sometimes razor thin.

Avoiding Disconnects



And to give you an example of a setup we would definitely want to avoid: dead NPCs squashed by doors. Here we have a common gameplay element that the player constantly interacts with – if we see a player squashed by a door, we want to do the same.

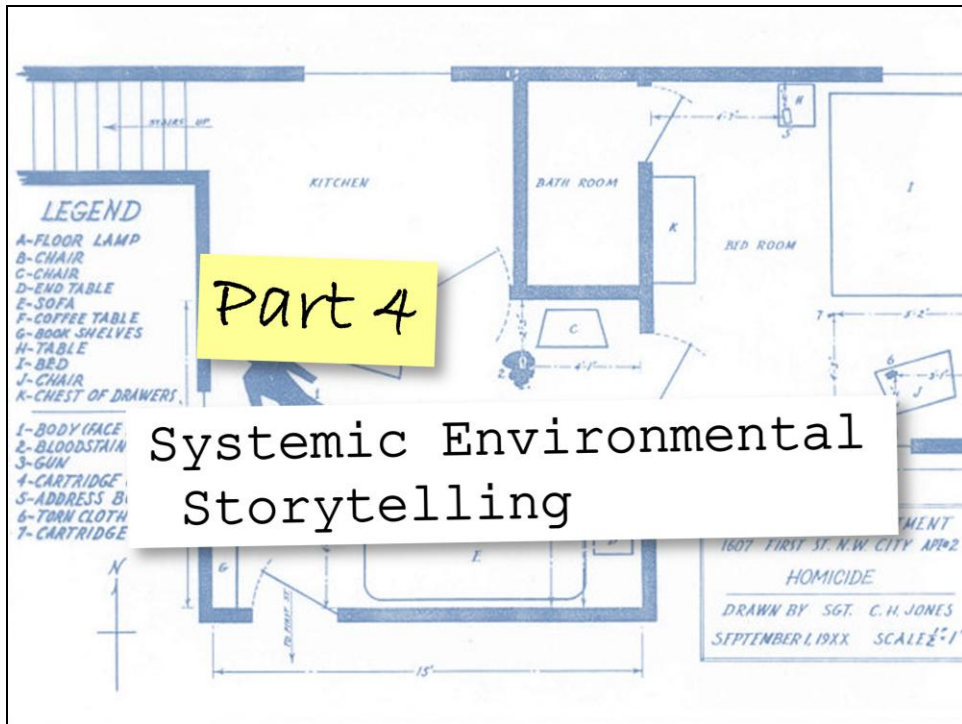


We've talked about these tips and techniques at length.

We've also identified an inherent danger in designer-authored environmental storytelling: It has the potential of exposing a disconnect between the player and designer-authored events, which in turn makes the player feel removed from the decision making of the world.

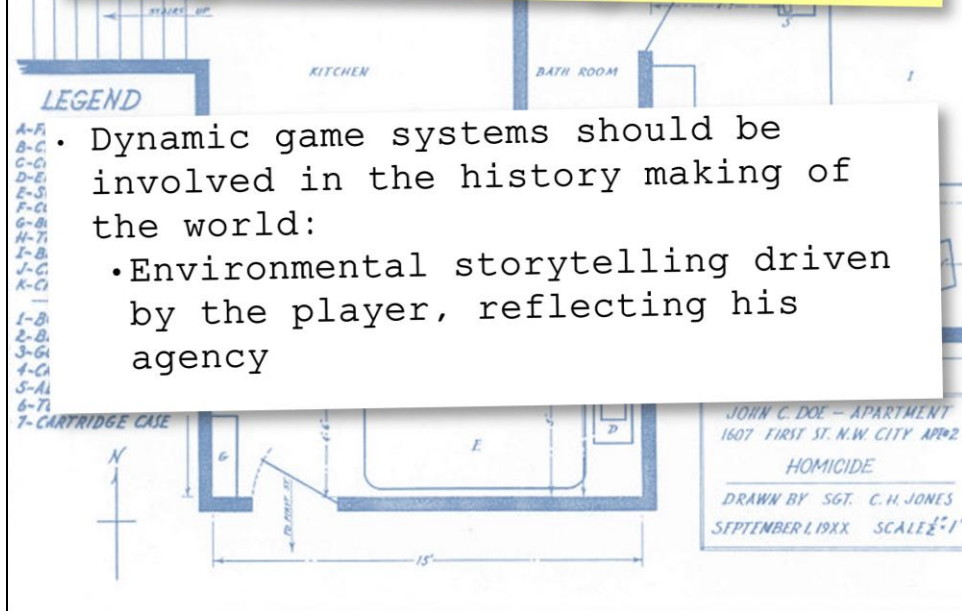
We believe that this gap can be closed and, in fact, should be closed.

Which brings us to section 4.



This section is about systemic environmental storytelling, which means dynamic history making.

Dynamic History Making

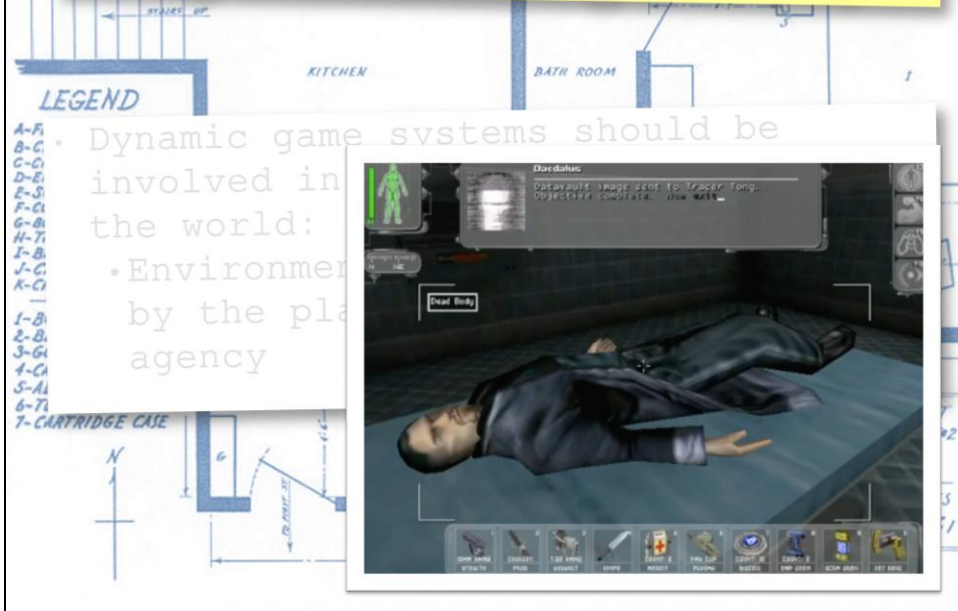


In games, especially immersive first-person simulators, we aim to make the player an active participant, authoring his own experience as much as possible.

So this section is about how game systems can contribute more dynamically to environmental storytelling, reflecting the player's actions and agency.

We often think of environmental storytelling only as designer-placed clues that deepen the world.

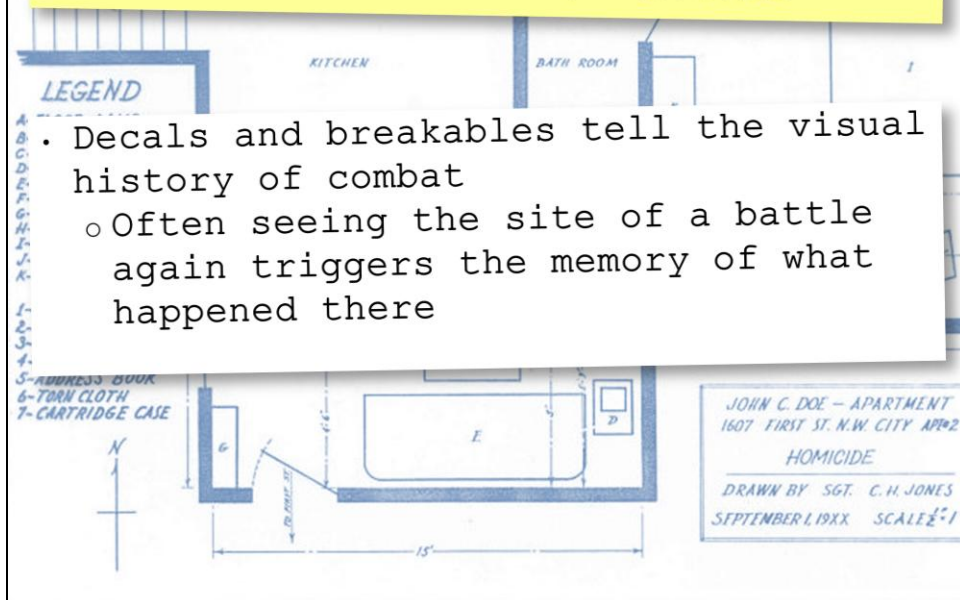
Dynamic History Making



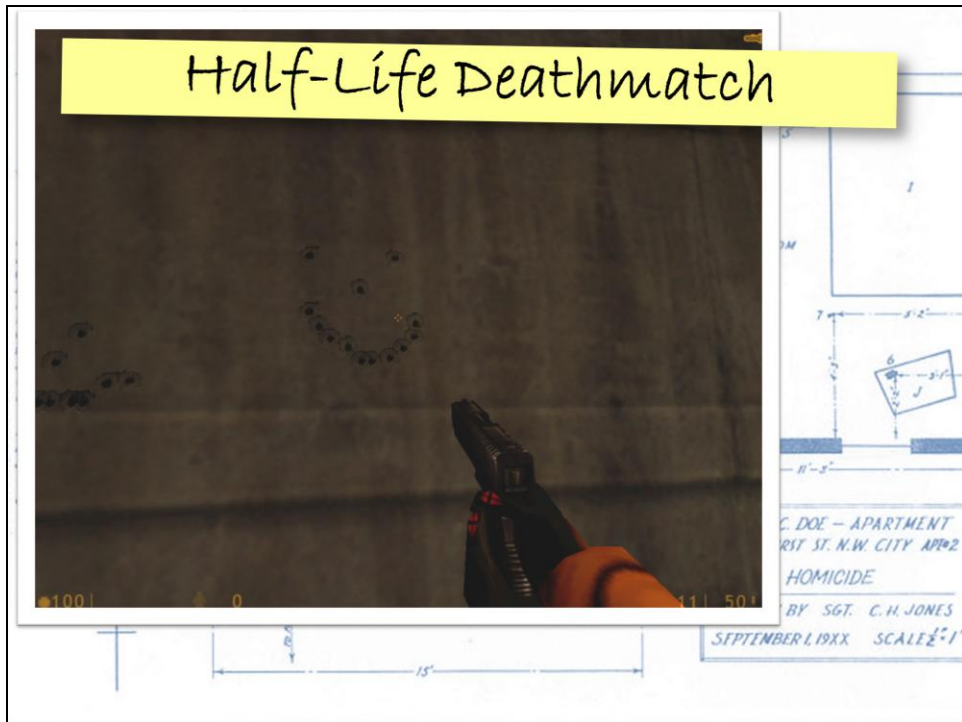
Some games have scripting branches that communicate consequences visually: for example un hiding Paul Denton's corpse in DX1, depending on the player's actions earlier in the game. But that just amounts to a giant flow chart.

We can do more.

Decals and Breakables



Let's find some game systems that contribute this "dynamic history making". Decals and breakables are an easy example, because breakables tell the visual history of the player's interaction with the level. Often seeing the site of a battle again triggers the memory of what happened there

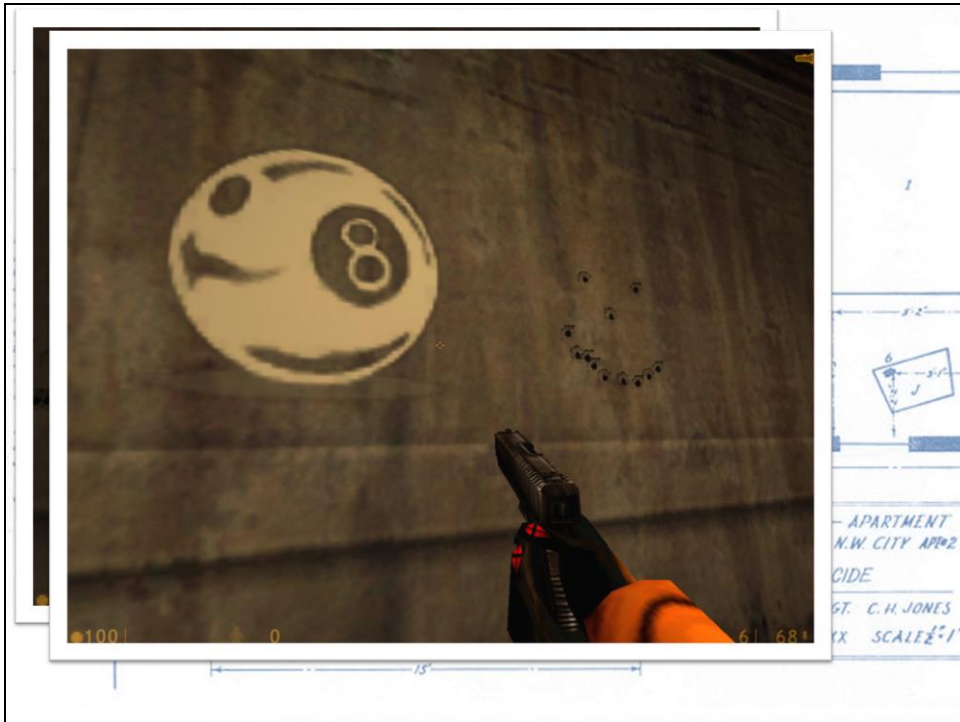


So we want to tell a story about Half-Life 1 deathmatch.

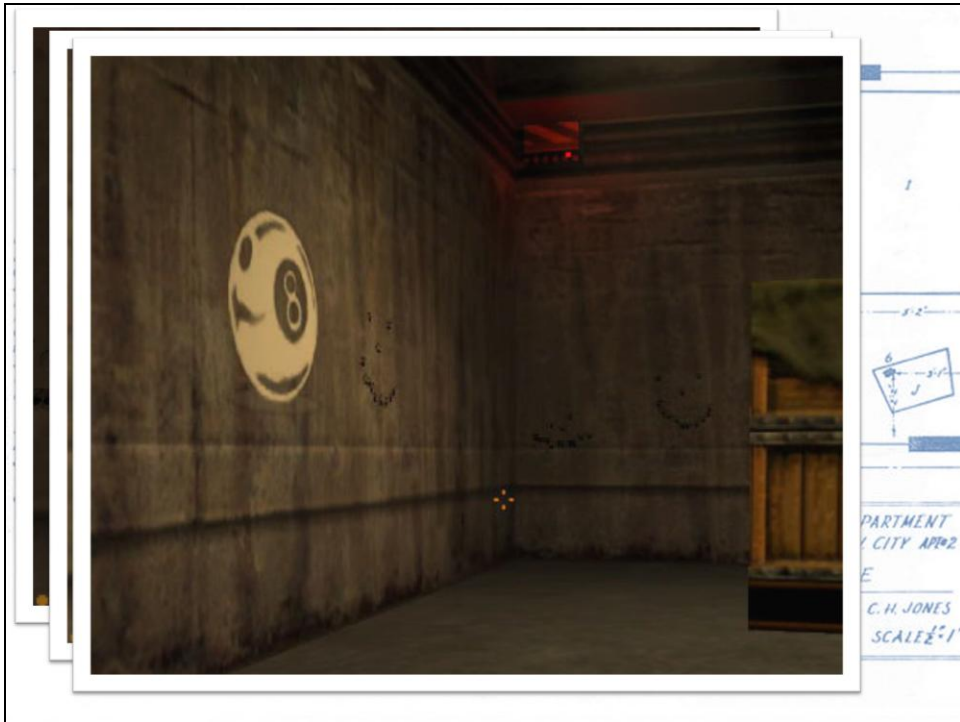
Half-Life, if you don't remember, was the first FPS game to really use decals for great effect - and in multiplayer, the game allowed players to spray their own logos all over the environment.

Here's a little story, in pictures. Imagine we're walking down the hallway and notice decals on the wall...

- A smiley face made out of bullet holes.



- Another smiley face and graffiti.



- Here's a wide shot of the area.



And here we see the tragic conclusion to our story.

We can deduct that:

- Player sprayed a lot of graffiti
- Was distracted
- Didn't notice an enemy player
- Got shot in the back while he was authoring his latest masterpiece.

That's a story on par with designer-authored storytelling we presented in section 3. And it's a great example of dynamic history making through game systems.

We can see that decals and breakable provide some good examples that we can draw from.

Linear/Circular Story-based Games

LEGEND

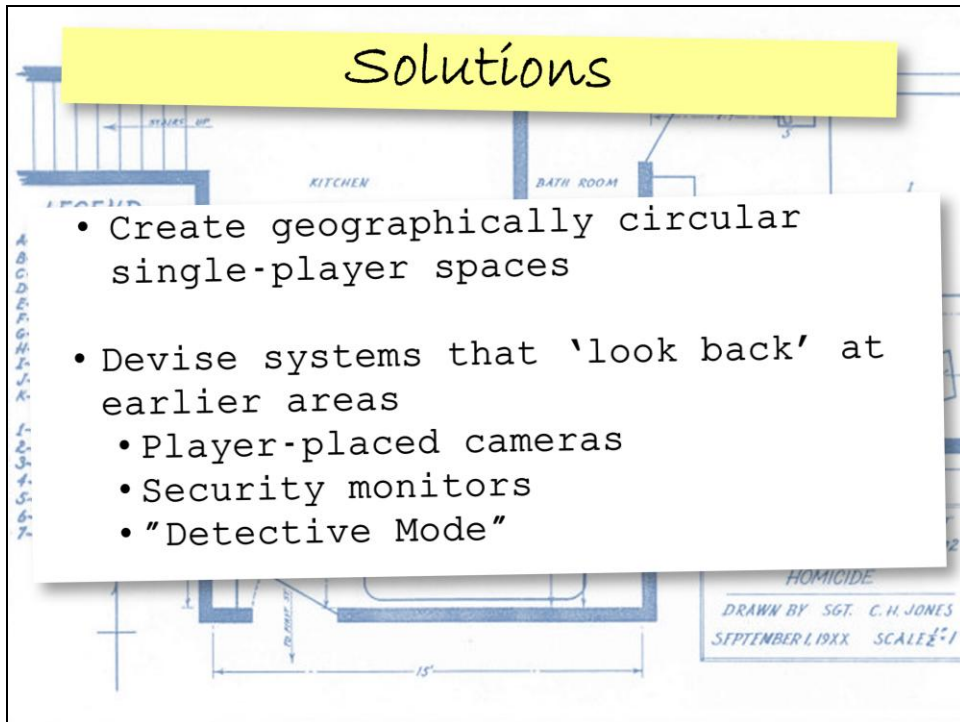
- Multiplayer games are often circular by nature
 - Repeatedly expose the player to environmental interactions
- Linear single-player games don't have this benefit as players rarely revisit areas

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Multiplayer games, by their circular nature, repeatedly expose the player to the environmental interactions of other players.

Linear single-player games don't have this benefit as players rarely revisit areas.

The trail left behind by a player goes unnoticed, and acts of environmental interaction lose power.



To address this, you could do a couple of things:

1. Create geographically circular SP spaces. That means back-tracking gameplay, with spaces that are so connected and non-linear that the player keeps revisiting them. (Thief games are a great example.)
2. Or you could devise systems that allow the player to "look back" into earlier scenes via cameras, as Deus Ex, Splinter Cell or Duke Nukem 3D have done.

If we do this, we need to make sure that that mess we created earlier is still around, though!

Technical Constraints vs Design Choices

"Of course you have to cache out bodies, debris and decals, due to memory constraints. But remember that's also a *design decision*. Players get value when they see that their acts are persistent in the world. It's memorable to come back and see your own mess."

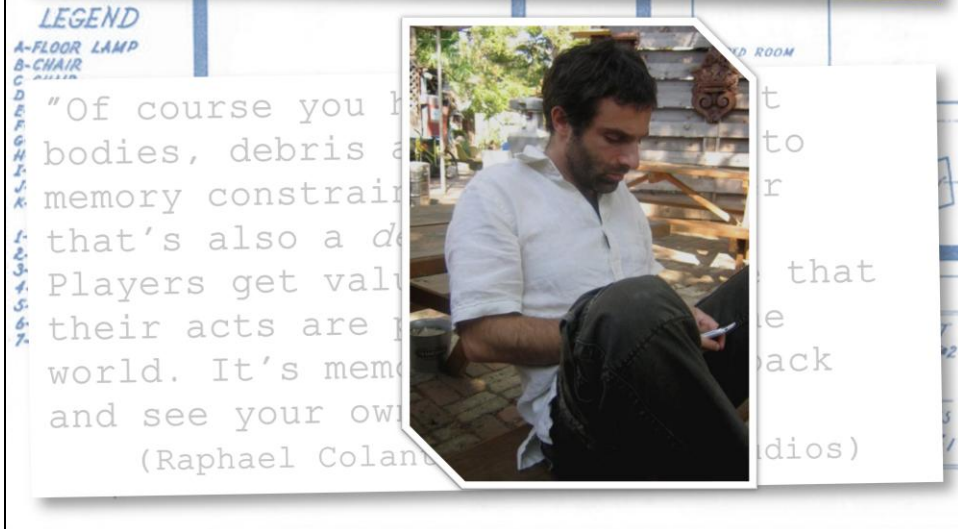
(Raphael Colantonio, Arkane Studios)

As we talk about this, we're bound to butt up against technical constraints. There's only so many decals we can draw, only so many dynamic objects we can keep in memory, etc.

And yes, that's true. But here's a quote that sums up the issue quite succinctly from a design standpoint

"Of course you have to cache out bodies, debris and decals, due to memory constraints. But remember that's also a design decision. Players get value when they see that their acts are persistent in the world. It's memorable to come back and see your own mess."

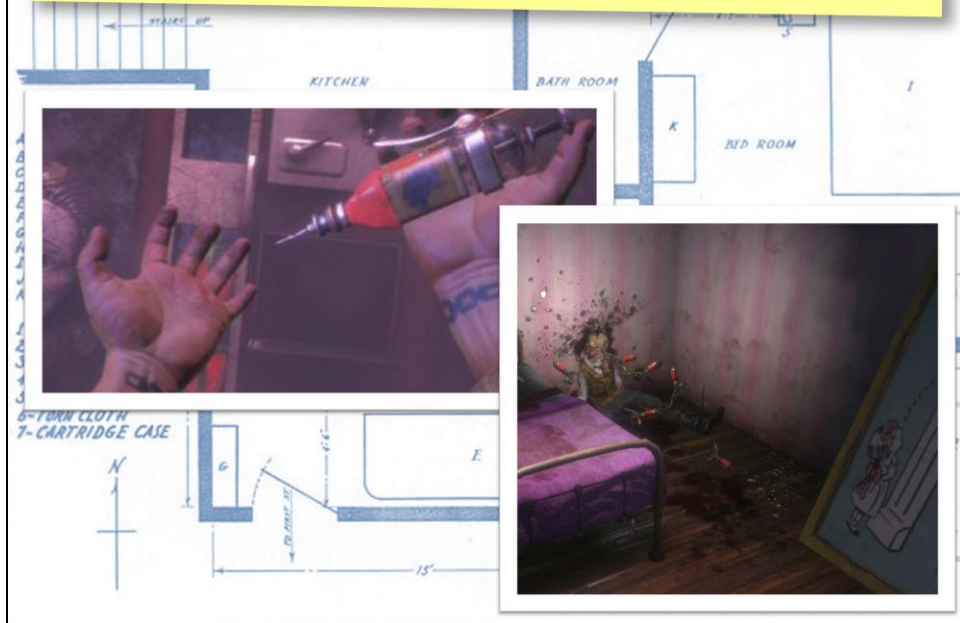
Technical Constraints vs Design Choices



This is a quote by game designer Raphael Colantonio, who is working with Harvey on Arkane Studio's next game right now.

This quote sums up our position very well. This is a design decision as much as a technical one – and if dynamic history making is important to us, we should allocate resources to it.

A Fictional Bioshock



Beyond decals, common player-pickups/systems – rather than simply disappear – could leave the empty packaging on the floor.

Imagine a fictional version of Bioshock in which the player drops an empty syringe when refilling his Eve supply – this syringe can also be used as a visual element in designer-authored environmental storytelling.

The player actually creates the visual language needed to decode designer-authored environmental storytelling moments.

This connection between systemic and designer-authored storytelling creates emotional impact; the situations observed by the player parallels his own play.

Spider--The Secret of Bryce Manor



When systemic environmental storytelling is done right the player visually leaves his mark on the environment, and gains meaning by reflecting on his actions.

In *Spider*, Tiger Style Games' award-winning iPhone game, there's a strange feeling of satisfaction at the end of each level, seeing your handiwork. If you haven't played it – the player is a spider creating webs to trap bugs.

Seeing your webs at the end of each level doesn't just give you a sense of completion, like un-blacking the fog-of-war in an RTS; these are the specific webs *the player* created during play.

Little Sister Vignette

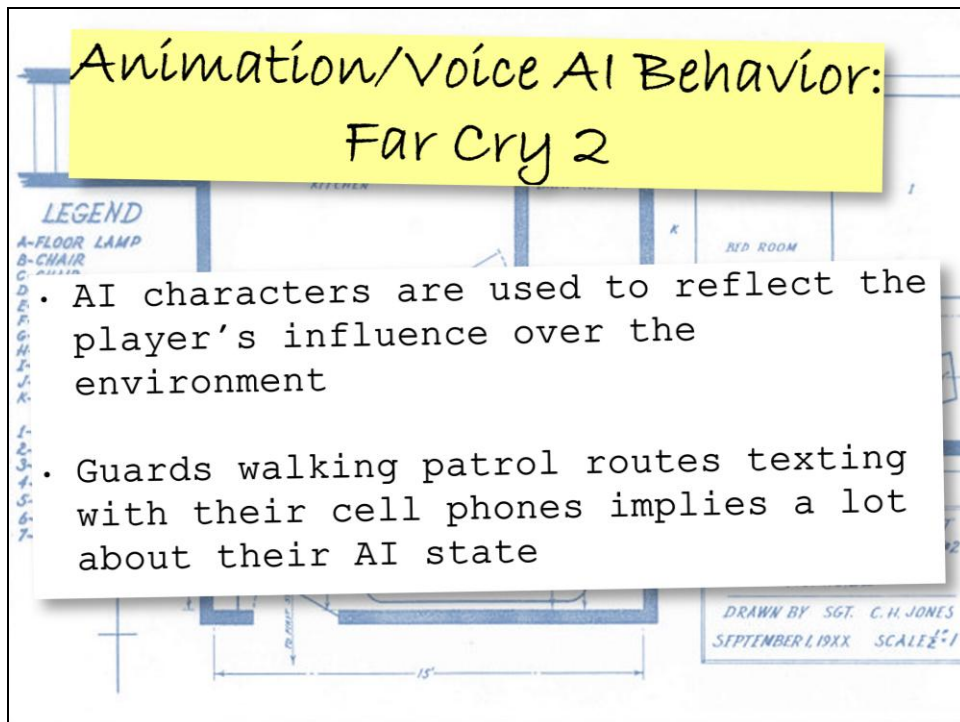


Characters and their behavior can communicate the player's influence over the world in ways that don't require massive exposition.

After the player has harvested or saved a Little Sister in Bioshock, the Big Daddy still walks the level, trying to find her..

- Pounds on Little Sister's den
- She does not emerge
- Big Daddy mournfully departs

This is a great reflection of the player's actions. It also provides insight into the game's literary 'tone' (or how it 'feels' about those characters).



Many games use animation and voice lines played by an AI to indicate state. There's a gold mine of opportunity here for communicating AI response to the player's prior actions.

In Far Cry 2, guards communicate their lack of suspicion by talking and texting on their cell phones, implying that...

- They're unconcerned and distracted
- They don't know you're there

The player fills in the blanks and makes up stories about what these guys might be doing. I often assumed a guard was texting a girlfriend in some small town nearby, making plans for the evening.

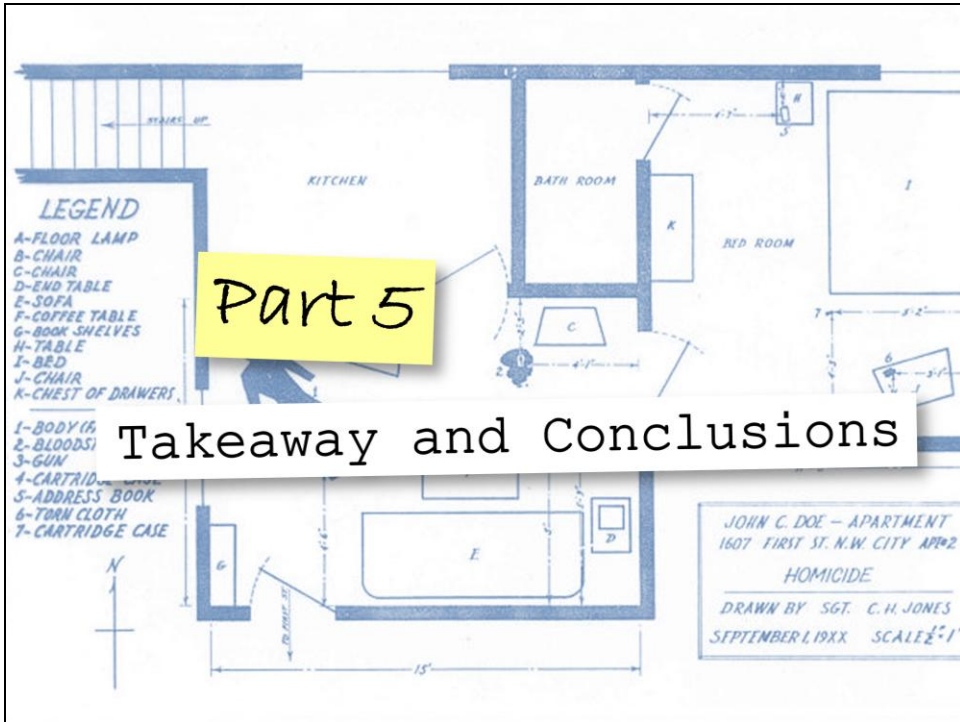
Part 4 Summary

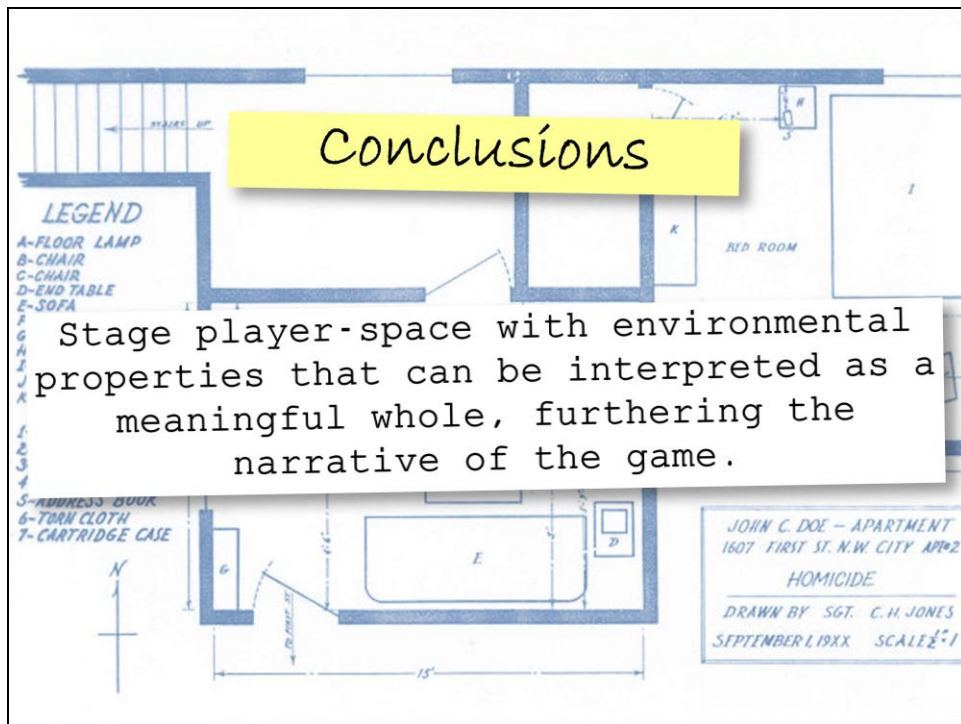
- Devise systems that allow players to see their impact on the environment
- Gameflow structures that allow for revisiting spaces
- "Caching out shell casings" is a *design decision*
- Keep visual history cues consistent between the player and the designer-authored bits
- Aim for player-centric thinking

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To sum up section for, we encourage you to...

- Devise systems that allow players to see their impact on the environment
- Create gameflow structures that allow for revisiting spaces
- Remember "Caching out shell casings" is a design decision
- Keep visual history cues consistent between the player and the designer-authored bits
- Aim for player-centric thinking in your environmental storytelling setups.





We wanted to do a few things today:

- We wanted to advocate for thoughtful environmental storytelling.
- We wanted to provide you with an overview of practical techniques.
- But we also wanted to push for dynamic systems that enable the player to author his own environmental storytelling moments.

Once we embrace this, the player will become a fundamental part of the history making of our game worlds.

Thanks!

Harvey Smith
Arkane Studios
harvey@arkane-studios.com

Matthias Worch
Visceral Games
matthias@worch.com

Thanks to...
Jordan Thomas,
Robert Wisnewski,
Wright Bagwell

Please remember to fill out the comment cards. We have time for a QA (over the next resources slide). Please use the microphone in the middle to ask your questions.

Resources

The Interesting Thing About Bishops

http://clicknothing.typepad.com/Design/hockingc_GDC04_Bishops.zip

Making Your Players Feel Smart:

Puzzles As User Interfaces

http://www.tigerstylegames.com/Public/RSmith_GDC09_PuzzlesAsUI_ForWeb.ppt

The Imago Effect

<http://www.witchboy.net/articles/the-imago-effect/>

Jordan Thomas "White Space"

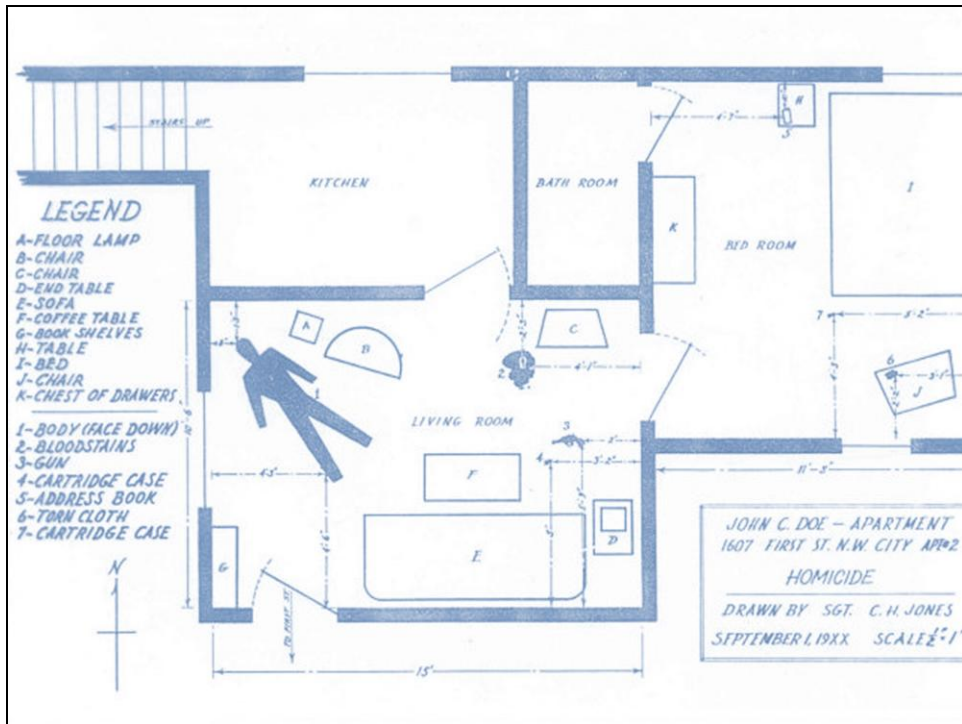
Speech given at Teeside University, UK

Pearls Before Breakfast

<http://www.washingtonpost.com/wp-dyn/content/article/2007/04/04/AR2007040401721.html>

Understanding Comics

Scott McCloud



THE END.