

Brian Moriarty | Lectures & Presentations | I Saw What I Did There

I Saw What I Did There (2016-22)

A preliminary draft of this lecture, titled *A Curious Conversation*, was presented on 4 November 2016 at [Project Horseshoe](#) near San Antonio, Texas.

It was subsequently expanded to its present form, retitled and presented on 11 November 2017 at the [AdventureX](#) Conference in London.

The video linked above was recorded “live” on 30 March 2022 at a colloquium sponsored by the [Interactive Media and Game Development Program](#) at Worcester Polytechnic Institute.

Running time is 38:24. A transcript of the presentation follows.

NOTE: All screen captures from *Braid* and *The Witness*, and private communications between me and Jonathan Blow, are reproduced with his permission.

§

Good afternoon, and welcome to this IMGD Colloquium

for grad students (and undergrads, and everybody else).

I am Professor Moriarty, and this presentation is dedicated to the memory of my late colleague Professor Dean O'Donnell, who loved all games, but had a particular fascination for treasure hunts.

I'll begin my presentation with a question. Please respond honestly.

How many of you have played Jonathan Blow's latest game, *The Witness*?

As a practical necessity, the story I'm about to share reveals a handful of details regarding the design of *The Witness* that would normally require dozens of hours of play to discover. These spoilers have been minimized to the best of my ability.

Nevertheless, in my opinion, the value of playing *The Witness* without foreknowledge far exceeds any value you are likely to extract from this lecture. This is *not* false modesty.

If you intend to substantially complete the game someday, please do me and the game's designer the honor of excusing yourself from this auditorium.

§

A short version of the lecture you're about to hear was delivered in November of 2016 at Project Horseshoe, a

small, private gathering of game industry veterans held annually at a luxury resort in Texas.

It was the second time I'd been invited to speak at Horseshoe. The first was nine years earlier, in November of 2007.

That event happened to coincide with a particularly difficult period in my professional career.

I was working as Creative Director of ImaginEngine, a division of Foundation 9 Entertainment.

Like every other game company I've ever worked for (with the sole, brief exception of Activision), both of these fine companies have passed into history.

We had just finished work on a series of four dance pad games for the Playstation 2. Although completed on time and under budget, the development cycle was *not* pleasant.

Management clashes with Konami, quality-control issues with our Bolivian art contractors, and the last-minute failure of the hard drive containing what turned out to be the only copy of our playtesting database, left everyone involved with the project bitter and exhausted.

I arrived at Horseshoe ready for a weekend of very serious drinking.

The lecture I presented there, [*Pile of Dirt, with Trees*](#), is the darkest and most personal address I have ever found the courage to offer.

Its topic was the conceit of legacy. Our individual legacy as designers, and our collective legacy as an industry.

At my request, the presentation was not recorded.

Turns out I didn't actually drink very much that year.

Most of the conference was spent in my room, alone in bed.

I may be prone to melancholy, but I'm smart enough not to mix alcohol with prescription painkillers.

As I lay there in "a kind of reverie," ignoring the knocks on my cabin door, another game designer, unknown to me and far from Project Horseshoe was up ... and coming.

§

The following spring, this stranger sent me an unsolicited email, asking if I would be interested in playtesting a platformer he was working on.

I get requests like this all the time from adventure game designers. But why would anyone think I'd be interested in testing in a twitch game?

I was polite. Told him I was rather busy, and not very good

at platformers, but would be happy to take a look at his project when it was finished.

July 31st, 2008:

From: Jonathan Blow

Sent: Thursday, July 31, 2008 11:04 PM

To: Brian Moriarty

Subject: Re: A game

It's been quite a while since this email thread ... but *Braid* is finally done. For one platform, at least: the Xbox Live Arcade version will be released next week, on August 6.

I don't know if you are an Xbox-playing kind of guy. The PC version will be a bit longer ...

In my response, I admitted that I was not, in fact, an Xbox-playing kind of guy, and would therefore have to wait.

I'm ashamed to admit that I totally missed the boulder-sized clue embedded in this message.

You probably know what happened next. *Braid* became the highest-rated title ever released on Xbox Live. It made Jonathan Blow an indie superstar, and a multi-millionaire.

Eight months and 450,000 sales later, on April 8, 2009, I received a message from Jon containing nothing but this link to a Windows executable, which I still possess.

From: Jonathan Blow

Sent: Wednesday, April 08, 2009 5:14 PM

To: Brian Moriarty

Subject: Braid for the PC, finally

http://numberone.com/braid/braid_full_1008_impulse.exe

I replied:

From: Brian Moriarty

Sent: Wednesday, April 08, 2009 8:30 PM

To: Jonathan Blow

Subject: RE: Braid for the PC, finally

You'll never make any money giving it away, you know.

Thanks, nevertheless. I've already completed the first three rooms. The screen shots really don't do it justice.

I'll let you know when I complete it.

I really am *not* very good at platformers. But *Braid's* time-reverse mechanic makes it not only easy, but *necessary by design*, to back out of failed moves and keep trying.

I progressed steadily for several days, admiring the ingenuity of the puzzles, the quality of the artwork and sound design, until I reached a level called "Hunt."

This level requires the player to jump repeatedly on the head of a single goomba, forcing it to die and resurrect, again and again, as you slide backward and forward in time, eventually scoring enough forward hits to finish the

poor thing off.

From: Brian Moriarty

Sent: Tuesday, April 14, 2009 12:27 AM

To: Jonathan Blow

Subject: Struggling with Braid

I've been stuck for a couple of days on the second "Hunt" scenario.

While managing to overcome my poor physical coordination on previous puzzles, this one seems to require a degree of split-second precision I don't possess.

Jon replied:

From: Jonathan Blow

Sent: Tuesday, April 14, 2009 1:54 AM

To: Brian Moriarty

Subject: RE: Struggling with Braid

I didn't think Hunt was one of the harder puzzles dexterity-wise though. Hmm. I guess the hard part is getting back up after the next-to-last guy?

Twelve days of struggle later:

From: Brian Moriarty

Sent: Monday, April 27, 2009 11:48 PM

To: Jonathan Blow

Subject: RE: Struggling with Braid

Still stuck. Yeah, it's that next-to-last guy. I've watched people perform the weird double-jump on YouTube, but can't get my aging fingers to duplicate the move.

Meanwhile, I was reviewing some of the earlier levels and suddenly recognized that dropping a pair of chandeliers on an Oriental monster ought to remind me of something.

The reason this twitch game designer had contacted me out of the blue was obvious now.

And so was the clue in this previous email:

From: Jonathan Blow

Sent: Thursday, July 31, 2008 11:04 PM

To: Brian Moriarty

Subject: Re: A game

It's been quite a while since this email thread ... but *Braid* is finally done. For one platform, at least: the Xbox Live Arcade version will be released next week, on August 6.

I don't know if you are an Xbox-playing kind of guy. The PC version will be a bit longer ...

Braid was released on August 6th, the day America ignited a sun over the city of Hiroshima.

Jon Blow and I had something in common.

We had both written time travel fantasies about the birth of the atomic bomb.

From: Brian Moriarty

Sent: Tuesday, April 14, 2009 12:27 AM

To: Jonathan Blow

Subject: RE: Struggling with Braid

It appears you have appropriated the mechanics of Mario/Donkey Kong/Price of Persia to fashion a pensive meditation on the Manhattan Project, the meaning of time and loss, and the problem I call the Mystery of Choice.

Just as I appropriated the mechanics of Zork for the same purposes, some 23 years ago.

Never did get past that goomba. After 60 or 70 attempts, I gave up and watched the rest of the game on YouTube. It was a disappointment I did my teasing best to make Jon feel guilty about.

You are about to learn why it is unwise to tease Jonathan Blow.

Our correspondence continued. At one point, I asked Jon if he had any plans for another game.

This email, on June 15, 2009, was his response:

From: Jonathan Blow

Sent: Monday, June 15, 2009 9:01 PM

To: Brian Moriarty

Subject: The Secret of Psalm 46

It is up in the air what game I am going to make next, but one strong contender is sort of a graphic adventure (in a 3D environment) where all the puzzles are of one simple streamlined type. You could think of it as being a little bit like the original Myst in the way it is styled, but with a different kind of puzzle.

In terms of fleshing out the world and the thought behind the game, I think it would be interesting if there was a projector room where the player could (optionally) sit down and listen to the entirety of The Secret of Psalm 46, with the eclipse projected on the screen.

[The Secret of Psalm 46](#) is a lecture I first presented at the 2002 Game Developers Conference in San Jose.

It's a wide-ranging ramble about solar eclipses, secret codes, buried treasures, Easter Eggs and other hidden, shiny things.

It's also about things that are *not* hidden.

Things that are generous and exuberant.

Sublime things, capable of evoking one of the deepest and most powerful emotions to which art can aspire, the transformative, transpersonal experience of **awe**.

As I delivered the lecture, the screen behind me displayed a real-time video of a solar eclipse, about 58 minutes from

first contact to totality.

It was the last presentation of the final day of the conference. Nevertheless, the hall was packed with game developers.

Among them, sitting by himself against the back wall, was an unknown, aspiring game developer named Jonathan Blow.

I've gotten a lot of mileage out of *The Secret of Psalm 46*.

In May 2011, the Drama Society at the University of York presented *The Name of the Power That Moves You*, a play by Hamish Todd based on the lecture.

And in November 2016, Diábolo Ediciones of Madrid published a graphic novel adaptation, translated into Spanish and illustrated by Iván Sendé.

Valentine's Day, 2010:

From: Brian Moriarty

Sent: Sunday, February 14, 2010 4:35 PM

To: Jonathan Blow

Subject: Progress report

Yesterday, I finally got the studio time I needed to record the voiceover for *The Secret of Psalm 46*. It came out very well.

I'm now editing the tracks.

I understand the new game is called The Witness. How's it going?

By this time in my career, I had left the game industry.

The experience of listening to Alvin and Chipmunks sing "Love Shack," "Girls Just Want to Have Fun," "The Macarena" and 21 other bouncy pop tunes about five hundred times apiece was the last straw.

I had assumed my current position here at WPI in 2009. As Chairman and sole member of the Lecture Committee, I voted, unanimously, to invite Jonathan to our campus to show off his new game.

In an Olin Hall lecture on 7 December 2011, my students and I got our first look at the simple line-drawing mechanic he had adopted as the scaffold for a gigantic 3D adventure filled with hundreds and hundreds of puzzles.

Chatting over dinner after the event, Jon estimated that *The Witness* might take another 12 to 18 months to complete. I offered to playtest it, and he promised to send me an alpha build.

Two years passed.

I quietly followed Jon's development blog, looked at the trailers and screen shots, read the press previews, and watched the ship date slide, again and again.

At one point, he asked me if I could re-render my *Psalms 46* video in high definition. Apparently, he was still intending to use it in the game.

I delivered a lossless 1080p version in December of 2013. He then went silent again for another two and half years.

One night, in mid-June of 2015, something odd happened.

I had a dream – a unusually vivid, detailed dream, in full color – about being totally absorbed in a playthrough of *The Witness*.

I sent Jon this Twitter message the next morning:

A little over a month later, I arrived at work and found this message waiting for me:

From: Jonathan Blow

Sent: Monday, July 20, 2015 1:25 AM

To: Brian Moriarty

Subject: So,

this is what I have been up to for a while now.

B2G7W-VZZTX-G42K8

The subject line, body text, capitalization and punctuation are reproduced here exactly as he sent it, in the middle of the previous night.

So nonchalant. So laconic.

Lesson one: Lines begin at a circle and end on a rounded cap.

Lesson two: Drawing lines makes stuff happen.

Lesson three: Lines are usually found on panels.

Lessons four and five: Lines don't have to be straight, and they don't have to be drawn left-to-right.

I ascended the narrow stair and emerged into a landscape giddy with detail, blazing in ultra-saturated color. It was like the Kensington Gardens on Ecstasy.

So began my close reading of *The Witness*.

I had no idea who else was testing it. There were no YouTube videos to consult, no cheat codes on Twitter or Reddit.

I was alone, and determined to stay that way.

I could have completed the half-dozen panels around the entrance area in five minutes. But I was in no hurry.

And I wasn't there just to play, either. I was there to find something. Something belonging to me.

Somewhere in this Kodachrome fever dream, Jonathan Blow had hidden my exhortation *not* to hide things.

He knew *Psalms 46* would be part of his game since its conception. For six years he'd been perfecting its location and the requisites for its discovery.

He knew I was looking for it. And I knew he was watching.

§

The game takes place on a deserted island divided into eleven visually distinct zones. All of these zones are immediately accessible to a new player, and can be visited in any order.

The puzzle panels found in each zone feature a unique variation on the basic line-drawing mechanic. Some panels combine two or more of these variations. In total, there are, among other challenges, more than 500 panels to be solved.

The island is dominated by a mountain or volcano, rising from the southeast corner. You can see it from almost everywhere.

I was tempted to climb the mountain immediately, but got distracted by a group of panels near the entrance on the western shore.

A few hours later, when I completed the last panel in this area, a steel projector rose out of a turret, turned slowly towards the mountain and fired a laser beam, trained on a target at its summit.

Could I get up there? It was time to find out.

After a couple of wrong turns and dead ends, I reached the top of the mountain.

Standing there in the snow, I experienced my first inkling of the scope, complexity and sheer beauty of Jon's achievement.

It was breathtaking.

I would soon come to know every square meter of it.

On a nearby rock, I discovered what looked like a little .mp3 player.

And you think about what you're experiencing and why. Do you deserve this? This fantastic experience? Have you earned this in some way? Are you separated out to be touched by God, to have some special experience here

that other men cannot have? And you know the answer to that is: No, there's nothing that you've done that deserves that, that earned that. It's not a special thing for you. You know very well at that moment, and it comes through to you so powerfully, that you're the sensing element for man. You look down and you see all that surface of that globe that you've lived on all this time, and you know all those people down there. They are like you. They *are* you — and somehow you represent them when you are up there. A sensing element, that point out on the end. And that's a humbling feeling. It's a feeling that says you have a responsibility. It's not for yourself ...

The eye that doesn't see does not do justice to the body. That's why it's there. That's why you're out there. And somehow you recognize that you're a piece of this total life. You're out on that forefront, and you have to bring that back somehow. And that becomes a rather special responsibility. It tells you something about your relationship with this thing we call "life" ... And when you come back there's a difference in that world now. There's a difference in that relationship between you and that planet, and you and all those other forms of life on that planet, because you've had that kind of experience. It's a difference. And it's so precious.

And all through this I've used the word "you" because it's not me, it's not Dave Scott, it's not Dick Gordon, Pete Conrad, John Glenn. It's you. It's us. It's we. It's life. *It's* had that experience. And it's not just my problem to

integrate, it's not my challenge to integrate, my joy to integrate. It's yours. It's everybody's.

NASA Astronaut Russell Schweikart, 1974

NOTE: Edited from original to match in-game reading.

My exploration began in earnest.

At one point, I came across an unusually difficult panel, which, when solved, opened a vault containing a cryptic line map like this one.

Later, I found my way into a curtained room with a screen and speakers mounted on the back wall.

When I traced the line I'd found on that vault map onto this console, a video was unlocked that I could watch anytime.

This, I thought, must be the projector room Jon mentioned in his email six years earlier.

The console had slots for six videos. One of them *had* to be mine.

Now I knew what I was looking for: A line map, locked in a vault.

On August 21st, after about a month of play, I sent Jon a message with the triumphant subject line, *It is finished*.

From: Brian Moriarty

Sent: Fri 8/21/2015 11:27 PM

To: Jonathan Blow

Subject: It is finished

Reached an ending after 81 hours of play, unlocking all 11 beam projectors in the process.

I solved absolutely every panel I discovered in the game.

My save game was apparently erased or reset by watching the ending. For this, you, your ancestors and descendants are damned to the twelfth generation. :)

It was true. I had solved every single panel I had found in the game. But two of the six videos, including mine, were still missing.

And there were a few locked doors that had no panels. There didn't seem to be any way to open them, at least from the outside.

Jon wasn't fooled, of course. He knew I was stumped, and sent me instructions for restoring my saved game.

The next day, I sent him another message with a somewhat less triumphant subject line.

From: Brian Moriarty

Sent: Sat 8/22/2015 4:46 PM

To: Jonathan Blow

Subject: It is NOT finished

Thanks for the tip on restoring my original game.

When I did this, it informed me that I had solved 430 panels.

Huh? I remember reading somewhere that the game contains over 650 puzzles.

So I climbed out of the mountain and started looking around again.

Then I saw it.

Damn.

Anyone who has invested significant time playing *The Witness* probably knows what "it" refers to.

For the rest of you, I can only say that discovering "it" is one of the most delightful moments of surprise and insight you are likely to experience in a digital game.

Unfortunately, as delightful as finding "it" was, "it" could not help me find my video.

While playing with "it," I did manage to locate another vault in an obscure corner of the game.

The panel guarding this vault is widely considered to be the single most difficult puzzle in *The Witness*.

But when I finally solved it, the video unlocked by the line

map found inside was not *The Secret of Psalm 46*.

§

I wandered the island for another thirty hours, utterly bewildered.

Even Jon became uneasy about the difficulty I was having. He asked me to send him my latest save game so he could see where I stood.

From: Jonathan Blow

Sent: Mon 3/28/2016 2:52 PM

To: Brian Moriarty

Subject: RE: Witness: Odd behaviors

Do you want a small hint about where the extra stuff is? You already figured out the important parts so I think this may just be a case of me needing to set things up a little better.

A student happened to be in my office when this message arrived. He looked over my shoulder as I replied to it.

I'm afraid I did not set a very professional example.

From: Brian Moriarty

Sent: Mon 3/28/2016 2:59 PM

To: Jonathan Blow

Subject: RE: Witness: Odd behaviors

A hint? Fuck off.

In November of 2015, I was invited to speak at a conference in Buenos Aires. One of Jon's close friends, Dan Bermugui, happens to live down there.

This was my first chance to talk with anyone besides Jon who had actually played *The Witness*.

When I explained my situation in the game, Dan told me that I had misinterpreted Jon's hint offer.

It turned out that I had *already solved* the panel that would grant me access to the rest of the game!

But the secret door controlled by that panel is on a timer. It closed before I noticed it was open. All I had to do was solve that panel again, and *listen*.

I raced back to my laptop. Within an hour, deep in the bowels of the mountain, I found myself standing in front of *this*:

The search was over. I knew the key to my lecture was inside that crypt. All I had to do was open it.

This was the moment I, and Jon, had been waiting for.

There are three panels above the door of the crypt. Uncharacteristically, they are *not* interactive.

But a quick look around revealed several conventional panels installed in a maze leading to the door of the crypt.

And at the beginning of that maze was an object I had not encountered anywhere else in the game: A phonograph!

The door of the crypt was guarded by a speedrun of 14 panels, randomly generated, with some of them randomly placed.

The phonograph music ran for seven and a half minutes. If it ended before you solved the final panel, you had to start all over again.

Nowhere else in *The Witness* were speed or physical dexterity required to play.

This was also the only use of music in the entire game. That music *sucked*.

I gave it the old college try.

And every time I complained about the speedrun, which I did, bitterly and often, he made it just a little bit harder.

This is what happens if you tease Jonathan Blow.

From: Brian Moriarty

Sent: Wed 11/18/2015 1:21 PM

To: Jonathan Blow

Subject: Some issues underground

After 50+ attempts at the speedrun, I'm afraid it's time to abandon the game. Waiting for the random number

generator to roll a sequence easy enough for a guy pushing 60 seems pointless.

Several dozen runs later, it occurred to me that Jon might, for the benefit of aging professors, have provided a secret method to bypass the speedrun.

I spent many days minutely inspecting the surrounding caverns, observing the behavior of the panels and watching the door of the crypt as the music played.

My hunch paid off. I found something.

During a discussion about typographic errors in the subtitles for my lecture, I dropped this comment:

From: Brian Moriarty

Sent: Mon 12/7/2015 6:39 PM

To: Jonathan Blow

Subject: Psalm 46 errors

1. Should be "Vor deinen Thron."

2. The consensus spelling seems to be Georg Philipp Telemann.

3. It should indeed be Wilmot. You have terrific translators.

Meanwhile: Found at least one of the loopholes in the speedrun.

So nonchalant. So laconic.

From: Jonathan Blow
Sent: Mon 12/7/2015 6:41 PM
To: Brian Moriarty
Subject: RE: Psalm 46 errors

Wait, you found a "loophole" in the speedrun?

That might well be a mistake ... depending on what you mean by that.

From: Brian Moriarty
Sent: Mon 12/7/2015 6:48 PM
To: Jonathan Blow
Subject: RE: Psalm 46 errors

So ... I discovered that, once you solve the panel that hints the xxxx, you can proceed directly to the xxxx (ignoring all the pesky panels in between, which you have kindly made EVEN HARDER), complete the two xxxx xxxxxx, and then proceed to the two xxxxxxxx.

From: Jonathan Blow
Sent: Mon 12/7/2015 6:53 PM
To: Brian Moriarty
Subject: RE: Psalm 46 errors

Oh, well. Can't say I'm not a thorough playtester.

He did swap out the horrible music with something more tasteful before the game shipped.

But he couldn't resist turning the screw just *one more time*.

From: Jonathan Blow

Sent: Mon 12/7/2015 6:41 PM

To: Brian Moriarty

Subject: F / U

FORTUNATELY, I have changed the music.

UNFORTUNATELY, the new music is 30 seconds shorter.

§

The Witness was released on PS4 and Steam on January 26, 2016.

At 5:29 that morning, I twittered:

Soon after the official release, I played the entire game again, from the beginning, not only to see the final polish but also to make screen captures for use in my classes.

I knew where everything was and polished it off in about 30 hours.

Everything, that is, except the speedrun.

One of my students completed it on his *seventh* attempt. This annoying accomplishment revealed yet another perversity.

In order to super-complete the game, Jon made it necessary to watch *The Secret of Psalm 46* in its entirety, all 58 minutes of it, without stopping.

Pausing the game restarts the video.

I did not give up. Knocked my head against that damned speedrun three or four times a day.

And one afternoon, about a month after the game shipped, the god of random number generators took pity on me.

I rolled 14 snake eyes, and finished with 35 seconds left on the clock.

At the moment of solution, I'm afraid I may have screamed a triumphant profanity within earshot of several students and faculty (including Dean O'Donnell, who chuckled).

The door of the crypt slowly opened.

And there inside was the line map needed to unlock the video of *The Secret of Psalm 46*.

Within a week, Jon confirmed that I had super-completed his game.

§

Epilogue

One of the endings of *The Witness* incorporates a short segment of live video.

In first-person perspective, it shows a man, apparently portrayed by Jon Blow himself, emerging from some kind of medically-induced trance.

We watch as he disconnects himself from electrodes, sensors and life support systems, pausing to notice the circles and lines found in the shapes of the instrumentation as he removes it.

Putting on his slippers, he rises unsteadily to his feet, and touches a wall to support himself.

The poster beneath his fingers happens to be a map of the desert site in New Mexico where, at 5:29 am on the morning of July 16, 1945, the first atomic bomb was tested.

This particular map was, at the time of its publication in 1986, the most complete and accurate diagram of the Trinity site ever released to the public.

I ought to know.

I researched it myself in the archives of Los Alamos National Laboratory for inclusion in the package of my second Infocom game.

But don't mistake Jon's fingers for the moon, or the sun.

This moment is not merely a tribute to an obscure text adventure.

It is also a circular reference to the Trinity gadget, the world's first concentration machine capable of attaining supercritical mass.

In this, it resembles *The Witness* itself, an unprecedented **ludic fugue** which aspires to be nothing less than a concentration machine capable of evoking supercritical insight.

A print of this image hangs framed on the wall of my office, a private gesture of acknowledgement from a prickly genius that means more to me than I know how to express.

§

A few years ago, I decided it was time to [publish](#) that lecture I gave at Horseshoe back in 2007.

To temper its darkness, I included this poem by William Yeats as a prologue.

To a Friend whose Work has come to Nothing

NOW all the truth is out,
Be secret and take defeat

From any brazen throat,
For how can you compete,
Being honour bred, with one
Who, were it proved he lies,
Were neither shamed in his own
Nor in his neighbours' eyes?
Bred to a harder thing
Than Triumph, turn away
And like a laughing string
Whereon mad fingers play
Amid a place of stone,
Be secret and exult,
Because of all things known
That is most difficult.

W.B. Yeats, 1916

Author and friend witnessing a total solar eclipse, 21
August 2017.

You cannot know if or how the works you create will touch
the lives of others.

I offer myself, and this strange story, as evidence that we
do *not* necessarily stand on the shoulders of giants.

Nevertheless, if you are lucky, like me, you may one day
experience the sublime humiliation of standing in the
shadow of the moon.

If we are remembered at all, it will only be because young people are so easily impressed.

§