You’re listening to Imaginary Worlds, a show about how we create them and why we suspend our disbelief. I’m Eric Molinsky.

When you log on to a video game like Fortnite or Call of Duty, you know that most of the other characters you see on screen are being controlled by other players around in the world. That’s pretty common. But that technology was still pretty new in 2005. And one of the first games to do that on a massive global scale was World of Warcraft. That’s why in their first year, they already had gotten over 6 million players.

World of Warcraft is kind of like a digital Dungeons & Dragons. You choose a type of creature to play, like an orc or a dwarf – or a human. Then you choose a skillset or “class,” like a Warlock or a Mage. After that, you can do whatever you want. You can send your character on quests, fight other players or trade with them. The more you play, the more you level up and gain power.

Virginia Wilkerson is getting a master’s degree in game design. When she was a teenager, she was really into World of Warcraft. Her character was a Druid.

VIRGINIA: I’d been leveling up, and when you’re leveling up, you’re following quest chain to quest chain.

In September of 2005, she was about to log on to join her brothers, who were also into the game.

VIRGINIA: And they were talking about like, what's going on? Like there are all these bones, like everybody in iron forge is a dead.

Ironforge is one of the major cities in World of Warcraft.

VIRGINIA: I was like, that's weird. Um, but so I logged in, I went to iron forge to check it out. And uh, lo and behold, there were all of these, uh, bones everywhere cause when your character dies, that's what you leave behind and then you go and you resurrected a graveyard to run back and get your body. And it was just, it was the weirdest thing because nobody really knew what was – or I didn’t know what was going on.

It turns out World of Warcraft was under siege from a virus called Corrupted Blood. If you’re thinking, this sounds familiar, well, Virginia started feeling deja vu months ago.
VIRGINIA: When it was in China and they were trying to quarantine everything. I mean it's sort of weird to, to compare it to that online experience, but I mean, you know, I had talked people shortly after like that start happening. I was like, oh my God, this is like the corrupted blood incident. And they're like, what is that? It's like glad you asked.

Eric Lofgren is a professor at Washington State University. In 2005, he was also playing World of Warcraft in his spare time, although he didn't have much spare time because he was getting a degree studying infectious diseases.

He says the crisis began when Blizzard, the company that makes World of Warcraft, opened up a new realm for players. The final villain you had to fight in that realm was a snake demon would cast a spell on you called Corrupted Blood. Now, a spell or a curse isn't supposed to have an effect on your character after the battle is over. But Corrupted Blood had a coding glitch in the software.

ERIC: The problem was, is that several sorts of characters in the game, so particularly warlocks and a group called hunters, both have sort of companions that fight with them. In the case of warlocks, they're sort of summon demons. And in the case of hunters, they're sort of loyal pets. So, you can think about, for example, the game of Thrones analogy is one of the Stark's direwolves would be fighting alongside these characters and those pets could also get sick. And what would happen is if you got rid of those pets during the fight. So, you said, okay, you're sick, I don't want you to die. Um, and essentially dismissed them when you brought them back, they would still have the infection. But what happened was, is then players returned to major cities, brought their pets back, their pets had this infection, and then they started spreading it again.

Now, every video game has non-playing characters, or NPCs, that are not controlled by the game itself. In World of Warcraft, the NPCs are the townsfolk, the guards or shopkeepers you can trade width.

Alexander King teaches game design at NYU. And he says the crazy thing is that the NPCs caught the virus, and they’re everywhere.

ALEXANDER: The NPCs in the game were set to have extremely high hit points and, and we're just like really robust so that characters couldn't, couldn't beat them up and stuff like that. So the disease is never going to kill them. And so the, the NPC is who's who just stand around and respond to play or prompts. They're just, they're just, there are now these like disease vectors and, and our, our, the um, you know, the asymptomatic carriers of the, of the disease.
And when you get the Corrupted Blood virus?

ERIC: So, when you get infected, because it's a video game, you have this sort of spectacularly gory fountain of blood that comes out of you to tell you you're infected and your health starts ticking down.

But if you were someone who had been playing for a long time, to the point where you leveled up and obtained a lot of wealth and health, you’ll be fine. But:

ERIC: If you're a low-level character that same amount of health takes away from you but you don't have as much so you can potentially simply die.

Virginia was one of those casual players who didn’t have the spare time to build up a lot of health in the game.

VIRGINIA: Oh yeah. I died all the time. I learned pretty quick just like I've got to, you have to like resurrected a graveyard instead of usually like when you die, you run, you started a graveyard, then you run back to your body where you can resurrect in the same place that you died. But if you can't do that, if you lose your body or for whatever reason, um, you can just resurrect at the graveyard and there are a bunch of people there, and that's when I saw where it was like, what's up with everybody dying all the time?

This is a question that not only players and game designers were trying to figure out – but eventually epidemiologists like Eric Lofgren realized there was a lot to learn by studying this virtual pandemic. Because it turns out the way the virus played out in the game was more true-to-life than many realistic sci-fi movies about pandemics. And if we go deep into how the crisis unfolded in World of Warcraft, that can help guide us through the crisis we’re going through in the real world.

We’ll begin our quest just after the break.

BREAK

In 2007, two years after the Corrupted Blood incident, Eric Lofgren co-authored an academic paper with the epidemiologist Nina Fefferman about how World of Warcraft helped them understand how a pandemic could play out in the real world. Their focus was not how the virus spread – but how people reacted to it.
Typically, when they studied pandemics, they only had a few of historic cases to study, and nothing at that time had become a global pandemic in the way that Covid-19 is now. So, they were relying pretty heavily on mathematical models with hypothetical people.

ERIC: In all of those things we have an omniscient view of the world, and the people in our studies will only do what we tell them to, so we don’t have the opportunity to add unexpected chaos.

In other words, the people in their mathematical models were programmed to behave rationally. But World of Warcraft is a virtual environment. Most of the characters are being controlled by real people. And Eric’s team could study how that behavior played out in real time. Their academic paper got a lot of attention in 2007. Now it’s turned out to be more prophetic than they ever realized.

Let’s go over the parallels.

First, The Corrupted Blood virus jumped from animals to humans in the game. Epidemiologists think the same happened with Covid-19. Somehow a bat in China infected a human. That’s lead to scapegoating. In the U.S. and other white-majority countries, people have been verbally or physically assaulting Chinese Americans or anyone who looks East Asian.

The situation in World of Warcraft was not as serious, but it was similar that that a lot of people were blaming a subset of players called hunters for starting the crisis because the virus began when their digital pets got infected.

ERIC: It’s a problem whenever you have a disease that is attributable to a particular group or faction or in this case, yeah. Like if you didn't have hunters’ pets, you wouldn't have had this problem. But that's you know, a single thing that doesn’t actually carry much past that initial introduction event after that, it's sort of a societal level problem. But yeah, you do. You do see a degree of scapegoating.

Alexander King, who teaches game design, says in both cases the problem isn’t a lack of information, but finding correct information in a sea of misinformation. Just like today, players in World of Warcraft were trading conspiracy theories online. They thought the company had made the virus intentionally or it was an act of sabotage by an angry employee. And like today:
ALEXANDER: There were fake cures. There were sort of snake oil like, Oh, if you do this, you can, you can prevent being infected and, or, or, you know, if you, if you get this effect, it'll, it'll protect you. That was, there was all like a lie, yeah there was a lot of misinformation. Yeah. Hysteria when faced with something that is totally unprecedented and inexplicable that people will start inventing, you know, whatever explanation they can and, and telling other people about that explanation.

As I mentioned, World of Warcraft was one of the first massive multi-player online games where everyone is inter-connected. Eric says that’s another reason why the virus spread so quickly. In the real medieval world, a plague would spread as fast as horse travel. But in this magical medieval world, players could teleport anywhere.

ERIC: Teleportation is very similar to honestly air travel at this point because while it is, well, it is instant and that's not real, the disease is sort of has a, everything is compressed in time. So it’s actually important is that you be able to get from point A to point B before your infection has resolved or before you know you're infected. And for coronavirus air travel is fast enough that you can be across the world before you, you know, you're infected and four corrupted blood. It was definitely, you could be, you know, across the world before, what was a relatively short duration spell ended up.

It was easy to catch the virus. Your character could get it by standing next to another player who had it. The game company Blizzard told everyone to practice social distancing, but a lot of people didn’t want to. What made the game so much fun was that you could interact with other players.

So there was a lot of selfish behavior, but one of the things that surprised Eric and his colleagues when they were studying this incident – and this is something they never anticipated in their mathematical models – is that some high-level players went on altruistic crusades to seek out infected players and heal them with their magical powers.

ERIC: Now one of the consequences of that is by healing someone, you yourself get infected. So again, you see a lot of parallels to how a lot of healthcare workers are experiencing emerging infectious diseases like this new coronavirus is that their profession and they're sort of calling to help other people ends up exposing them to a disease and it's potentially very serious for their own health.
As I mentioned earlier, the inequality among players in the game, in terms of wealth and health, determined who could recover from the virus and who would not – which is another parallel to the real world.

And some high-level gamers were doing something so cynical and mean-spirited, Eric and his colleagues were surprised and took notice. It was a behavior called griefing.

ERIC: So, the idea behind griefing is that there are players in the game who essentially are, are causing trouble, and one of the things you could do in this particular setting is get people sick. So how you infect people in the game was determined by how close you are to somebody. So, if you went and got infected and then just ran to other people, you would be able to infect them. And if they were low level players, they would die.

VIRGINA: You also had like the anti griefers that were like, listen everyone is trying to play this game. You know, you're going around, you're ruining everybody's fun. Stop it.

Virginia says, okay, we don't have an exact equivalent to griefing in real life, but it's not about one-to-one comparisons, it's about the difference between people who understand the risks and repercussions of their behavior and are willing to limit their needs for the sake of the greater good...

VIRGINIA: And then you have people that don't take it seriously at all because they don't really see how important it is to other people. They're really just focused on their enjoyment of the game. And if this isn't impacting their enjoyment of the game, then they don't really care about anything else. It mimics society in so many ways, which is very interesting. It does in others. I mean, you have, I mean, people live life for different reasons. Some people play video games for many different reasons. I'm sort of like a, a skill and achievement-based player. Like I want to, I want to be the best at my class that I can be. Then there are people that play purely for social reasons that aren't interested in um, going to like the high-level rates or really even like maxing out their characters. Then you have people that are there, a small subset of people that just play for like the economics of auction house in World of Warcraft. And then you have lots of people that play uh, for the role playing that there are specific servers that are just for role-playing, like it's Dungeons and Dragons or something like that.

Yeah, it's interesting cause I mean it’s, it sounds like everybody is doing, there is going to the game for different things and this is one of those rare moments where all these players that normally would be sort of siloed from each other just based on their own choices. Every, it's affecting everybody in the whole game.
VIRGINIA: Yeah, absolutely. There was no escape. It really didn't matter how isolated you made yourself, you know, unless you just camped out on top of a mountain for a few weeks, in which case you weren't really sure playing the game.

When your character dies, you can come back to life. But having to keep resurrecting yourself was driving players away.

VIRGINIA: I sort of logged in and out temporarily while it's happening. Just be like, is it over yet? No. How long in this quest can I get before I get infected again?

The Corrupted Blood incident went on for weeks. During that time, Alexander King says, the economy of the game came to a grinding halt.

ALEXANDER: The cities in the game are forming the sort of hubs of the, of the whole play experience. So, it's, it's where you would go to get quests to, to buy and sell the sell loot and buy equipment and also find other players, to group up with to do all the content that requires groups of people. And so, in the short term, the economy is basically like suspended there all of the normal types of activities that you would want to do. And especially the, the market content like buying and selling items in the, in the economy, all of that just can't take place.

The game company Blizzard tried to put through minor fixes and patches to stop the virus. Nothing worked. Then they resorted to solutions we don't have in real life. And sadly, that's where the parallels end.

ALEXANDER: Blizzard just starts instituting hard resets on the servers that are affected. And then the issue of patch where, um, pets can no longer be infected by Corrupted Blood and then that, that sort of immediately ends the epidemic, and then, and then the economy recovers.

ERIC: And I think had they not been able to revert to that patch for some reason, I think it would have been pretty grim.

ALEXANDER: What's not present in the Corrupted Blood incident is the, the sort of institutional mismanagement, Blizzard handles the situation quickly and effectively.

That makes me wish I lived in a virtual world.

The only tools we have at our disposal to make this crisis pass is our behavior – to hunker down, self-isolate, and follow the guidelines laid out by experts. But the
non-compliant behavior of people in this crisis did not come as a surprise to epidemiologists like Eric Lofgren. They were ready to combat that attitude partly because they studied the Corrupted Blood incident.

ERIC: And I think one of the things that we're seeing in parallel is that a lot of people don't take infection seriously if it is not personally a risk for them. So you see a lot of people talking about coronavirus and they're like, well, I'm young, I'm healthy. The mortality rate isn't that high for me, so why should I care? And I think in the corrupted blood case, there was a lot of that similar thing where, you know, okay, this is bad if you're high level, but it's not all that big a deal. But like, yeah, the server is being destroyed by this epidemic. The economy has been crippled. You can't go to the major cities; everybody can we cooperate for a little bit and get rid of this is I think a sort of the important parallel there.

Games are all about choices under controlled circumstances. Even when a puzzle or a challenge seems impossible to solve, we know the answer is there because someone is in control of the game. Otherwise it's a crisis.

Interestingly once Corrupted Blood became part of the game’s history, the players got nostalgic about the thrill of survival. Three years later, Blizzard introduced a zombie virus into the game to see if they could have the same experiences in a controlled environment. And other games tried similar things.

Alexander King says it actually opened up a new level of quote emergent gameplay, which leaves room for players to act unpredictability.

ALEXANDER: Designing emergent effects or what we sometimes call second order design problems where you're not designing something for what immediately happens but you're designing something that causes effects and that those second order effects produce interesting behavior is very difficult. It's like having good emergent behavior in a, in a game system is an extremely hard and interesting design problem.

He says, it’s a difficult design problem because by the time those games come out, every type of behavior has been anticipated by the game developers. The players don’t have as much freedom as they might have wanted. And if they do act out in ways like griefing, the game designers are ready to squash that behavior. It’s a classic philosophical debate between freedom and responsibility.
ALEXANDER: But I think that what you're going for, like why you would want that is actually to, as, as a designer and like when you're designing sort of virtual communities, is you want these kinds of interesting behaviors that happen that real, real people do.

Thinking about a future when this crisis will be part of history, I've been wondering how will our behavior change? So, I asked Eric, how did World of Warcraft change?

ERIC: One of the things about Corrupted Blood is that you're now much less bound to particular spaces in the game. It's much less dependent on being in a capital city to trade, being in a capital city to find groups to adventure with. So, for example, right now if you want to go on one of these multi-person group adventures, wherever you want in the world, you just bring up a menu. You say, yeah, I want to go do a particular thing, you're instantly, a group is basically instantly matched with you. You are teleported to that place. You do the thing and then you are teleported back to wherever you were. So you lose, I think an aspect of the sort of social, that very early World of Warcraft depended on where in order to find a group to do something, you'd have to sit and the chat room on the capitol city and say, Hey, I want her to do this thing. Does anybody else want to do it with me? We all need to take a essentially a Griffin or Wyvern, which is essentially flying monsters that act as airplanes essentially. You know, you've, I think we've lost a little bit of that. So, I think there's somewhat less of this sort of both gestalt community spirit in the game now. And I think also less dependence. I think that if you had a, a bug like Corrupted Blood now in the game, it would be much less big, uh, much less big deal because you really don't have to be anywhere.

So even in this virtual world, people are interacting more virtually than ever.

My life has been very virtual ever since I began working on this podcast full time. The one thing I miss about working in an office is the level of human contact. And as someone who spends a lot of time interacting online, I've been concerned about how we treat people on social in ways that we never would in person. It's a subject I've come back to a lot in this podcast.

We're all trying to be safe now – moving our interactions online. But as we see from the Corrupted Blood incident, virtual spaces aren't necessarily safe spaces. Although Virginia did not need a virus to tell her that.

VIRGINIA: The more you expose yourself on a virtual platform, the more open you are to harassment. I'm thankful that I've experienced relatively a little as, as a woman that's online, you know, quote unquote like a gamer person, but there's not really nothing like
as a woman online you can do to sort of mitigate something because if you get offended then people will get mad at you for being offended. But if you stay silent then it keeps on happening.

Eric Lofgren is also concerned about how the fabric of society will change as we behave more like gamers, interacting with each other primarily through our avatars. And he’s been wondering:

ERIC: How do you deal with that level of isolation? And so I actually think that the story from Corrupted Blood is a good one, is that there's online communities and there are people who engage with each other online in a way that carries emotional weight. People were upset when their characters died, even though it carries very little consequence for them. People were engaging with each other; people were talking to each other. So, I think it's actually sort of a hopeful story that there is at the time. And I think that's even more true now, a degree of social connectivity in virtual spaces that I think will help people actually get through. I'm suddenly being confronted with the fact that working from home means you might not see anybody in the average course of your day and the sort of cadence of life gets disrupted. And so there's things like that that I think that these online virtual spaces help sort of build a sense of community that can act at least partially as a surrogate for the human contact that we’re going to be losing as we’re talking about mass social distancing as a way to help control coronavirus.

And this crisis is redefining and putting to the test what counts as human contact.

Well, that is it for this week, thank you for listening. Special thanks to Eric Lofgren, Alexander King and Virginia Wilkerson.

My assistant producer is Stephanie Billman. You can like the show on Facebook. I tweet at emolinsky and imagine worlds pod.

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On a lighter note, if you want to virtually experience a crisis in World of Warcraft without even logging on – you can come on down to South Park. They partnered with Blizzard to do a crossover episode in 2006.

SOUTH PARK CLIP