

# Material Girls Season 1, Episode 5: Avatar X Hypermediacy

## SPEAKERS

Marcelle Kosman, Hannah McGregor

**[Material Girls Theme plays: "Shopping Mall" by Jay Arner and Jessica Delisle]**

**Hannah McGregor** 00:29

Hello, and welcome to *Material Girls*, a scholarly podcast about popular culture. I'm Hannah McGregor.

**Marcelle Kosman** 00:37

And I'm Marcelle Kosman.

**Hannah McGregor** 00:38

And today we are talking about James Cameron's 2009 sci fi epic, *Avatar*, which Marcelle, you and I both just watched for the first time this week.

**Marcelle Kosman** 00:51

Oh, yeah. **[Marcelle laughs]** Yep, we sure did. I'm glad that I decided to because remember? I texted and was like, should I watch it?

**Hannah McGregor** 01:00

And I was like, I mean, if you feel like it? Sure. **[Marcelle laughs]** And then you did. And you texted me while you did. And it was fun.

**Marcelle Kosman** 01:08

It was a wild ride. So I know that this new podcast of ours is about material culture. So we're probably going to talk about the production of *Avatar*, you know, rather than doing an analysis of the content.

**Hannah McGregor** 01:23

Yeah, that's right.

**Marcelle Kosman** 01:24

So before we do that, I've just got to get some stuff off my chest about how totally bonkers this movie is. **[Hannah laughs]** So I wanted to make a top 10 list, but it was, I'm not gonna lie, I had to skip a lot of the movie because it was unnecessarily long.

**Hannah McGregor** 01:44

Oh, because it's so boring to watch when you're not in a movie theater because so many of the scenes are just them flying around on dragons for like 15 minutes. **[Marcelle laughs]**

**Marcelle Kosman** 01:54

The war scenes- Anyway, I'm sure we'll talk about it. We'll talk about it. So what I did is I made a top five list of things about which I can say absolutely nothing more intellectual than wait, what?

**Hannah McGregor** 02:10

**[Hannah and Marcelle laugh]** Good. I'm ready.

**Marcelle Kosman** 02:12

Okay, so number five, our hero's name. Okay? The protagonist of the movie. His name is Jake Sully, but the Na'vi call him Jakesully.

**Hannah McGregor** 02:24

They call him Jake Sully **[Hannah pronounces it like Jay-k-soo-lee]**.

**Marcelle Kosman** 02:26

Oh sorry, you're right, Jakesully. But it's only clear that they're collapsing his first name and his surname together into one if you're watching the movie with subtitles, so it like doesn't...

**[Marcelle laughs]** It doesn't serve...

**Hannah McGregor** 02:44

You're supposed to hear that they don't understand surnames sort of from how they say it.

**Marcelle Kosman** 02:48

But you can't. Because they're just saying Jakesully and his name is Jake Sally. So it's like, how do you know?

**Hannah McGregor** 02:56

Hey, speaking subtitles.

**Marcelle Kosman** 02:57

So number four, speaking of subtitles, the captions for the Na'vi language appear in a yellow papyrus font.

**Hannah McGregor** 03:07

Truly. Truly, the font is so embarrassing.

**Marcelle Kosman** 03:09

It is instantly recognizable. It is the font high schoolers across North America use for every single history class presentation on Ancient Egypt. You know it if you're listening and you're like, I did a presentation on Ancient Egypt in the late 90s and the early aughts. **[Marcelle laughs]**

**Hannah McGregor** 03:31

The way that they designed these subtitles just to be like... what looks foreign?

**Marcelle Kosman** 03:38

Okay, important intervention. Coach has just informed us that there's an SNL skit about this so we're pausing the recording immediately to go and watch.

**Hannah McGregor** 03:48

It's called a skit. We're not editing that out. Leave it in. Never take it out.

**Marcelle Kosman** 03:52

Is it not a skit? It's a sketch.

**Hannah McGregor** 03:55

Not funny because you made a mistake, funny because comedy nerds care.

**Marcelle Kosman** 04:00

Comedy nerds. Okay, number three, the Na'vi practice lifelong heterosexual monogamy even though they literally penetrate every other living thing around them.

**Hannah McGregor** 04:11

I've mated with you and I'll mate with you for life, except for literally everything which I will be putting my braid dick in. **[Marcelle laughs]** Everything. I'm going to fuck the entire world. I'm gonna fuck this horse. I'm gonna fuck this horse right now. **[Marcelle laughs]** But you and I? We're mated for life in the eyes of this tree, but I'm gonna fuck that dragon.

**Marcelle Kosman** 04:31

**[laughing]** I'm gonna fuck that tree.

**Hannah McGregor** 04:33

I'm gonna fuck that tree. That tree observed that we're mated for life. And also I'm gonna fuck that tree. **[Marcelle wheeze-laughs]**

**Marcelle Kosman** 04:42

Oh my god.

**Hannah McGregor** 04:43

Hey, speaking of dragons.

**Marcelle Kosman** 04:44

Speaking of dragons, number two, this one. Oh my god. At this point, I had consumed an entire bottle of wine. So I actually had to pause and go back because I thought for sure I've I miss read and misheard. So our antagonist, the big bad military man, whose real name-

**Hannah McGregor** 05:05

His only motivation is "I hate natives, I simply, I simply hate them."

**Marcelle Kosman** 05:12

It's just straight up colonial racism. Like that's his whole deal. Okay. I've got to say it seriously. His callsign is papa dragon. **[Marcelle bursts out laughing]**

**Hannah McGregor** 05:26

Yeah. And you know what? So is mine. Moving forward, you are gonna have to call me that all the time.

**Marcelle Kosman** 05:35

But I already call you daddy dragon. Isn't that enough?

**Hannah McGregor** 05:39

Mmmm. Yeah, actually. That's better.

**Marcelle Kosman** 05:42

There's something really sinister about Papa dragon that-

**Hannah McGregor** 05:46

You know why? It's gonna fuck that tree. **[Marcelle laughs]**

**Marcelle Kosman** 05:50

Okay, and so number one, you guys, Sigourney Weaver. Her character, Grace? Her avatar is a hot teen. **[Hannah and Marcelle burst out laughing]**

**Hannah McGregor** 06:07

It's so embarrassing. She's got this weird headband. The first time you see her in her avatar form she's wearing a jersey and playing basketball. It's embarrassing for the movie, but it's also embarrassing for Sigourney Weaver's character. Like you're an adult scientist. Have some self respect. **[Marcelle laughs]**

**Marcelle Kosman** 06:23

And the look that she gives Jakesully, which is like I know, right? **[Marcelle laughs]** No! No, Grace.

**Hannah McGregor** 06:31

Yeah. Have you seen this cool bod I've got? Weird. It's like I want to talk about the genetic logic of like, we spliced your DNA into this Na'vi body. And so the nerd looks like a nerd as a Na'vi because he's genetically a nerd. What? How do you think genes work?

**Marcelle Kosman** 06:55

But then what does that mean for Sigourney Weaver's character? She's like, genetically a hot teen?

**Hannah McGregor** 07:03

Yeah. I think we can all agree Sigourney Weaver's genetically a hot teen. Listen, Marcelle? Everything about this movie is profoundly bonkers. And that's not beside the point, because, I think, it's deep silliness has to be part of our conversation. But we've got to leave it aside for a moment and ask, Hey, this is a very silly movie. Why did people like it so much?

**Marcelle Kosman** 07:31

Why did this? Who let this happen? **[Marcelle laughs]**

**Hannah McGregor** 07:36

I have an answer for that. And we're gonna find out in the next segment.

**Marcelle Kosman** 07:40

We must, let's go.

**[Upbeat interlude music plays]**

Alright, enough about the content, forget it. It's time for context, also known as Why This, Why Now, our segment in which we consider the material conditions for our object of study, and why the heck it became or was so Zeitgeist-y.

**Hannah McGregor** 08:02

Why This, Why Now is a really fun question when it comes to Avatar as a movie.

**Marcelle Kosman** 08:09

Wait, wait, wait, do you mean fun literally, or fun academically? Because those are not always the same thing.

**Hannah McGregor** 08:16

I mean fun academically! **[Hannah and Marcelle burst into laughter]**

**Marcelle Kosman** 08:21

I had a feeling, so listeners- **[Marcelle laughs]**

**Hannah McGregor** 08:23

Wow. So mean, wow. Yeah. Okay. It's fun. It's scare quotes, "fun." Because one of the most oft repeated stories about the production of this movie is that James Cameron originally planned on making it way earlier than he did. He wrote the original treatment for the movie in 1994. And his plan was to start production in 1997 as soon as he was done with Titanic, like it was his next project. But he tested the motion capture and it wasn't where he wanted it to be. Like, he had this very specific image that he wanted to make a sci fi epic where the protagonists were these fake creatures.

And he was like the motion capture is not good enough. So the short answer is Avatar was zeitgeist-y in 2009, because that's when James Cameron made Avatar, and they spent \$150 million on promotion. Like the weird thing about talking about material culture and the zeitgeist is that we have to recognize that at a certain point, if an incredibly rich man decides we're all into something, we're all into that thing now. For context, \$150 million is what the Barbie movie's marketing budget was in 2023.

**Marcelle Kosman** 09:45

Oh, wow.

**Hannah McGregor** 09:46

And we're talking \$150 million in 2009 money. So it was like an unprecedentedly large marketing budget on top of an unprecedentedly large production budget, like a rich guy decided that this is the thing he wanted to do. And then he spent an unfathomable quantity of money telling us all that we had to watch it and everybody did.

**Marcelle Kosman** 10:11

I know we're probably gonna get to this, but like, did he make the money back?

**Hannah McGregor** 10:15

Adjusted for inflation, it's the second highest grossing movie of all time. It was the first movie ever to break the \$2 billion gross mark to ever make more than \$2 billion.

**Marcelle Kosman** 10:27

Well, that is gross.

**Hannah McGregor** 10:28

And then they re-released it to theaters to get people amped for the sequel, Avatar: The Way of Water. And it's very, it's really close to 3 billion now.

**Marcelle Kosman** 10:40

Oh my god... [Marcelle laughs]

**Hannah McGregor** 10:41

Yeah. Oh, yeah. Marcelle, he made it back. He made it back.

**Marcelle Kosman** 10:47

Wooo....That's a real pull yourself up by your bootstraps kind of story, isn't it?

**Hannah McGregor** 10:52

Oh, yeah, absolutely. Okay, so let's do a little context. Because to understand this movie, we really just need to understand who this rich guy is and how he made it. Because that's really what's going on here. And so, James Cameron, you may have heard of him.

**Marcelle Kosman** 11:09

He made a boat movie one time, right?

**Hannah McGregor** 11:11

He also made Titanic. That was him. He's extremely horny for the ocean. **[Marcelle laughs]** Like he's made a bunch of documentaries about the ocean. He's a big personal submersible guy.

**Marcelle Kosman** 11:22

When *the* submersible was missing. I remember like James Cameron being like, I've done submersibles and-

**Hannah McGregor** 11:30

He's the only person ever to have done a solo mission to the bottom of the Marianas Trench. This guy is horny for the ocean. And he is unbelievably rich. So he's probably building himself an Atlantis at the bottom of the ocean right now. And we wouldn't know because none of the rest of us can get down there. Okay, so he is arguably one of the two quintessential directors of the modern blockbuster, which is like mega movies with mega budgets that are framed as being for literally everyone and everyone's supposed to go see them.

That's sort of the idea of the blockbuster. Like it's not for a niche. It's for absolutely everybody. We put a huge amount of money into it. And everybody sees it. Just a side note about James Cameron. Coach sent me this amazing article in *Bustle* called "Why are we so horny for blue aliens," by Chloe Joe. **[Marcelle laughs]** And it's really, really good. It does talk about Avatar, obviously. At one point, the author links the fetish towards blue aliens to humanity's erotic fascination with water, and writes of James Cameron, quote, "If anyone wants to fuck a lake, it's that guy." End Quote. So, anyway, that's really good.

**Marcelle Kosman** 12:47

So it's not just you. It is clear to everybody. It's well established James Cameron canon that he wants to fuck a body of water. The bigger the better.

**Hannah McGregor** 12:59

Yeah, yeah, absolutely. And probably the first Avatar movie would have been largely about the ocean. But they weren't ready for water animation. That's a big part of why he waited so long before making *The Way of Water*. That's why there was another huge gap.

**Marcelle Kosman** 13:14

Oh, okay. So he saw Harry Potter and the Goblet of Fire and was like, not yet.

**Hannah McGregor** 13:23

He's like, it's simply not ready.

**Marcelle Kosman** 13:24

Simply not ready. Okay. Very good. Very good. All right.

**Hannah McGregor** 13:29

So the specific technology he was waiting to be ready is Motion Capture. I found a fabulous article about motion capture, published in the late 1990s, which was really fun. **[Marcelle laughs]** Because it was when it was brand new, and people were being like, is this art? Hard to say. Really good, really good. But it included just a really handy little quote from it from a white paper on the topic.

**Marcelle Kosman** 13:56

Okay, wait, please explain to listeners what a white paper is. I only know them in the context of the government.

**Hannah McGregor** 14:03

A white paper is essentially like a policy document explaining the context of something. So this is like when this is a brand new technology and people are still grappling with it. So this is a quote from Scott Dyer, Jeff Martin and John Zulauf, who described it as, quote, involving “measuring an object's position and orientation in physical space and recording that information in a computer usable form. Objects of interest include human and non-human bodies, facial expressions, camera or light positions and other elements in a scene.” End quote. So it's like you're recording it, but you're recording it for a computer to use so the computer can stick shit on top of it, if it wants.

**Marcelle Kosman** 14:41

Why were they developing this technology? What was the? I know. Was it for porn?

**Hannah McGregor** 14:48

Take a quick guess. **[Marcelle laughs]** What incredibly well funded, sort of sector of our society tends to innovate new technologies?

**Marcelle Kosman** 14:59

It's the military. Yeah, okay. Okay. Okay.

**Hannah McGregor** 15:02

Motion Capture was created for military use and like a lot of other kinds of technologies, it then made its way into entertainment. It's obviously huge now. There basically isn't a modern blockbuster that isn't using some kind of motion capture. But it's most obvious when they have

human actors playing supernatural creatures like Gollum or the Hulk. So like, it allows you to have a human actor acting alongside the other human actors and then in post turn that actor into a computer generated character.

**Marcelle Kosman** 15:37

Gollum? Flawless.

**Hannah McGregor** 15:40

Yeah. Impeccable.

**Marcelle Kosman** 15:41

Why didn't Peter Jackson participate in this process?

**Hannah McGregor** 15:45

Oh, Marcelle!

**Marcelle Kosman** 15:47

Am I getting ahead of us?

**Hannah McGregor** 15:49

Marcelle, you're getting ahead of us!

**Marcelle Kosman** 15:51

Okay, okay. We'll put a pin in Peter Jackson. Okay. Okay, let's-

**Hannah McGregor** 15:54

Fuck it. Let's get to him right now. Okay. In order to do the Motion Capture work that he wanted to do for Avatar, James Cameron partnered with Weta Digital, which is a New Zealand based FX company that Peter Jackson started in 1993 to make the movie Heavenly Creatures.

**Marcelle Kosman** 16:21

Oh And is this the company that did the Motion Capture animation stuff for Lord of the Rings?

**Hannah McGregor** 16:29

Yes.

**Marcelle Kosman** 16:30

Okay. Okay. So that's how Gollum takes us to Avatar. Okay.

**Hannah McGregor** 16:35

So the technology was progressing really rapidly. I mean, it's continuing to progress really rapidly because-

**Marcelle Kosman** 16:41

-of the military.

**Hannah McGregor** 16:42

At this point it's because white men really think it's cool and put a lot of money into it. Like Peter Jackson and James Cameron are bonkers rich, and they think the most important thing they can be doing with their money is either going to the bottom of the ocean, or making computer generated aliens that people are gonna want to fuck. So that is, that's what they're up to.

But like the production of Avatar required creating new technologies to do it. That's kind of one of the things that Cameron is famous for as a director, is that he has an image. And so he helps create new technologies that will allow the thing that he wants to do to become possible. So it wasn't just him sitting around twiddling his thumbs waiting for digital FX to be ready. He was like, participating in its readiness. And there were a bunch of others- like, he patented a kind of 3D camera that let them film in unprecedented 3D. This is a dimension of the movie we missed out on watching at home.

**Marcelle Kosman** 17:48

Oh my god. Yeah, it was in 3d.

**Hannah McGregor** 17:51

And it was such a huge success for 3D that it actually is linked to the rising popularity of at home 3D compatible TVs.

**Marcelle Kosman** 18:00

I remember those.

**Hannah McGregor** 18:02

That whole industry emerged, basically because people wanted to watch Avatar at home.

**[Marcelle laughs]** Yeah, yeah. They created the biggest soundstage that had ever been made so that they could do Motion Capture at unprecedented scales, like with whole scenes with lots and lots of actors. They created this virtual camera system, where it's like, basically sort of an

augmented reality situation, think PokemonGo. So the actors are acting on the soundstage. And then what he can see, as he's directing through his screen, is them as avatars. It superimposes it so that he can see what it will look like. Like it's not, you know, it's not rendered like it will be in the final one, but yeah, yeah. So Microsoft-

**Marcelle Kosman** 18:53

Bill Gates, another incredibly rich white man.

**Hannah McGregor** 18:56

-built for James Cameron, a whole new cloud computing system that they named Gaia, because I guess all these guys think they're helping the environment? Unclear. Just to handle the sheer quantity of data involved in making a movie like this, these guys invented a lot of new technology to make Avatar possible. So there's this quote from the Wikipedia article about avatars that I'm really horny for. And Marcelle, I'm gonna read it to you because it's got too many mean words for me to make you read it to me. **[Marcelle laughs]**

**Marcelle Kosman** 19:29

Thank you. That's nice of you.

**Hannah McGregor** 19:32

Quote, "To render Avatar," that's like, you know the actual processing of all of the digital effects. "To render avatar, Weta used a 930 meter squared or 10,000 square foot server farm, making use of 4000 Hewlett Packard servers with 35,000 processor cores with 140 terabytes of RAM and three petabytes of network area storage running Ubuntu Linux, Grid Engine cluster manager, and two of the animation software and managers, Pixar's RenderMan and Pixar's Alfred queue management system. The render farm occupies the 190rd to 197th spots in the top 500 list of the world's most powerful supercomputers." End quote. They really wanted to make these aliens fuckable.

**Marcelle Kosman** 20:26

I am beside myself.

**Hannah McGregor** 20:27

Get ready, Marcelle, it's gonna get sillier.

**Marcelle Kosman** 20:29

No, no, no, no, no, no, no, no, no, I don't know if I can, I don't know if I can do it.

**Hannah McGregor** 20:33

So obviously Cameron's goal with the visual effects was the closest to hyper realism he could achieve. But he was also really invested in the hyper realism of world building. So he hired a linguist to create the Na'vi language. It is a fully structured existing language that you can learn-

**Marcelle Kosman** 20:58

Like elvish!

**Hannah McGregor** 20:59

-like elvish, with a growing vocabulary. That language was created before they even started interviewing the actors. So he made the actress speak it in auditions. **[Marcelle and Hannah laugh]** He also, this is my favorite one, they recorded most of it on a soundstage, obviously, because it's all just, it's all just computers, but he wanted the actors to like, get a jungly vibe. And so he sent them to a jungle. Okay, so this is a quote from James Cameron. "We did a sense memory experiment in Hawaii. We trekked around the rainforest for three days building campfires and cooking fish trying to live tribally."

**Marcelle Kosman** 21:47

No, okay, no.

**Hannah McGregor** 21:48

End quote. So obviously, his sense of like, we're building a world here was like, really vital. And the world he thought he was building was a fucking an updated version of a Pocahontas movie.

**Marcelle Kosman** 22:05

He's a new world explorer rich white man. Like, this is the level of this. It's like 100% neo-colonialism.

**Hannah McGregor** 22:15

100%. No jokes about it. The story is about a white man who goes and saves the natives. And because there are no natives left for him to save, he invented some.

**Marcelle Kosman** 22:29

No, I don't. Okay. Okay.

**Hannah McGregor** 22:31

So, realism is really central to his understanding of what the movie is.

**Marcelle Kosman** 22:39

I just think that James Cameron and I have different interpretations of the term realism is the only thing, but keep going.

**Hannah McGregor** 22:45

I mean, he doesn't use realism. I'm using realism like verisimilitude. Okay. Here's another quote from him. And this is about his goal with the computer generated characters. He said, quote, "Ideally, at the end of the day, the audience has no idea which they're looking at." End quote. Like, what's real and what's constructed. That is his goal. He wants the lines between what's real and what is computer generated to be so fully blurred, that the audience cannot tell what has been computer generated and what is real.

**Marcelle Kosman** 23:23

Mm hmm. I don't think he, I wouldn't say that he accomplished it. But you know what? It's 2023.

**Hannah McGregor** 23:32

I mean, it's 2023. The movie is 14 years old. And it still looks pretty good. And it looks better and better all the time. Really, the limitation at this point is the computational power. So the stronger our computers get, the more granular the rendering of these digital effects can be. Okay, so here's the pivot. So much money is going into computer generated effects. Motion Capture, we talked about, you know, the technology, there's obviously humans involved as well. And the FX industry has some problems—

**Marcelle Kosman** 24:16

[Marcelle fake gasps] What??

**Hannah McGregor** 23:17

—that have been— I know— coming to the forefront in the last few years. So this is my last crucial piece of context is the shit that is going down in the, like, special effects, computer effects, digital effects world.

**Marcelle Kosman** 24:34

Okay, okay. I'm ready.

**Hannah McGregor** 24:35

So, the first is labor issues.

**Marcelle Kosman** 24:38

Again, I must say, whatttt??

**Hannah McGregor** 24:41

I know, shocking. Okay. So here's a quote from a BBC article about the issues with virtual effects companies, quote, "untenable working hours, tight deadlines, and late stage edits have allegedly caused rampant burnout for VFX company employees trying to keep up with the unrealistic expectations from studios producing an increasing number of CGI heavy movies and series. Superhero projects have reportedly caused the biggest headache with Marvel Studios, a subsidiary of Walt Disney Studios being called out by VFX artists through news outlets, and otherwise, claiming execs make increasingly complex demands but don't adequately compensate for the multiple new renderings that come from endless studio notes." End quote.

So everybody working in the VFX industry is like, Disney and Marvel are the real nightmare. And the thing is, because they're making like most of *the movies* now, they can just lowball everybody. They have incredibly exploitative practices when it comes to how much they pay people to do all of this rendering. James Cameron, apparently good, affects people like him, because he, he's not like, here, we filmed a thing, now make it look cool for us, which I think is how Marvel movies treat it. He's like, I only made this movie once the motion capture was ready. You know, he cares more.

**Marcelle Kosman** 26:03

He had, and maybe has a bit more of an understanding of what goes into the process, because he's been so involved in the development of the technology.

**Hannah McGregor** 26:13

Yeah. And he worked with, you know, a company owned by his friend. You know, like, Weta is really sort of the top tier company. And-

**Marcelle Kosman** 26:23

So, Weta is good? **[Hannah laughs]** Is that what I'm hearing you say?

**Hannah McGregor** 26:28

They're good at doing this. They're bad at some other things. So, the FX industry is, you will be really surprised to find out, like really sexist,

**Marcelle Kosman** 26:41

Again, I must. Whaaat?

**Hannah McGregor** 26:43

I know, and it's pretty racist.

**Marcelle Kosman** 26:45

Double what!

**Hannah McGregor** 26:46

Oh, yeah. Yeah. So in 2020, there was an investigation into the workplace culture at Weta, after basically a whistleblower, went to a journalist in New Zealand and was like, it's bad here.

Marcelle, I'm gonna ask you to read this quote from Wikipedia about the workplace culture issues at Weta FX.

**Marcelle Kosman** 27:13

You got it. Quote, "In their testimonies, workers identified the existence of a male only pornographic mailing list called Caveman, which originated in 2002, following a company wide tradition known as "porn Friday," and continued to circulate until 2015. Several reports also alleged that the company's IT systems required upgrades in order to accommodate the volume of pornographic content hosted on the company intranet, in addition to numerous allegations of sexual harassment, bullying, intimidation, misogyny, and homophobia." End quote. Okay, so not a good place to work.

**Hannah McGregor** 28:08

So here's another quote. Again, Wikipedia. Bless you, Wikipedia. This is about the design of Neytiri. Quote, "Cameron describes Neytiri as his "Pocahontas," saying that his plotline followed the historical story of a quote, 'white outsider who falls in love with the Chiefs daughter, who becomes his guide to the tribe, and to their special bond with nature.'" End quote within the quote, that's the end of Cameron talking, but this is me continuing the Wikipedia quote, "Cameron felt that whether or not the Jake and Neytiri love story would be perceived as believable, partially hinged on the physical attractiveness of Neytiri's alien appearance, which was developed by considering her appeal to the all male crew of artists." End quote. That's just as a reminder, the all male crew of artists working at the company that had so much porn on its servers, that they kept having to upgrade them. Was Avatar delayed because the Motion Capture wasn't ready, or was it delayed because the computers kept crashing because there was too much porn?

**Marcelle Kosman** 29:15

This is why we can't have nice things. Because when you're not being driven to absolute burnout by your employer, you are crashing the servers with your "porn Friday" activities. And I hate it.

**Hannah McGregor** 29:30

Yeah. Because the notion of what a good workplace is going to be like, is defined by a bunch of white tech bros, who are like good, we want a good workplace. So ping pong tables and porn, you know, good workplace things. Okay, the last thing. This is about the servers. That server farm? Remember that huge server farm, right? Yeah, yeah, yeah. So Weta has a huge server farm. Shout out to friend of the podcast, and Board of Trustees member Jan, for helping me out with the research on this particular topic. Weta FX's server farms, apparently they now use Amazon cloud servers. That's, sorry, the cloud should not distract from the fact that they are physically located somewhere, it's just that they might not still be physically located in New Zealand, they'll just be physically located wherever Amazon's server farms are.

But when Avatar was being made, the server farm was in New Zealand. And fun fact, some of you probably know this. Some of you don't. Server farms are environmentally devastating. **[Marcelle makes a sad noise]** Because hey, Marcelle, you know, that thing that happens where your laptop has been running for a while and it starts to get hot, and then the fan starts to go? So picture that with 4000 servers running simultaneously in a 10,000 square foot facility. They require an enormous amount of cooling power, and that cooling power, which is like basically constantly mega air conditioning a huge mansion. It's really bad. Also, apparently, it fucks up birds.

**Marcelle Kosman** 31:13

Well, yeah!

**Hannah McGregor** 31:14

Yeah, they tend to build the server farms in cold climates, so that the coldness of the climate will contribute to the cooling.

**Marcelle Kosman** 31:23

Oh, that's nice. That's good. Yeah.

**Hannah McGregor** 31:25

But they really have an enormous ecological footprint. Which is, let's just say, ironic, considering the subject matter of the movie.

**Marcelle Kosman** 31:37

I was gonna ask.

**Hannah McGregor** 31:38

But you'll be relieved to hear that Cameron insisted that only vegan meals were served on set for the environment. I mean, they ate fish when they were in the jungle. But that's because they were trying to live tribally.

**Marcelle Kosman** 31:53

I'm so mad.

**Hannah McGregor** 31:57

Everything about this movie is so weird. And it's like, the more you read, the weirder it gets. What is really interesting to me, as a scholar of material culture, is how much of the marketing and paratext around these movies focuses on their production. You can find a bajillion behind the scenes featurettes. You can find so many videos of Zoe Saldaña covered and dots with a camera on her head, like it's everywhere. So the goal of Avatar is to create an environment that is, like immersively, real-seeming. But at the same time, we are constantly being told about how hard and expensive and complicated it was to make it, so that you never forget that that impression of realness was produced through a series of elaborate forms of mediation.

**Marcelle Kosman** 32:58

This is like the film version of you know, when your house is really clean, you don't notice that it's clean unless somebody's constantly walking around and pointing out like I cleaned that just now. See that? I scrubbed it. Do you see this? I polished it. Do you see this? I swept the floor. Do you see this?

**Hannah McGregor** 33:15

100% like, the point is that you shouldn't be able to tell the difference between what's generated and what's real. But in order for you to be impressed with how hard we worked to create that, we are going to tell you every fucking detail about how we made this real. Every technological detail, we're going to try to keep the labor contexts on the DL.

**Marcelle Kosman** 33:40

Yeah. Labor contexts and I'm guessing also maybe the environmental contexts?

**Hannah McGregor** 33:45

Oh, yeah, yeah, yeah, we're not going to talk about the environment. But we're going to talk about big computer.

**Marcelle Kosman** 33:50

Yeah, computer is really big. But don't ask. Don't ask how hot it is.

**Hannah McGregor** 33:55

Computer so big, computer so big, earth so hot. So in order to understand what's going on here with this relationship between realism and technology, I think we need some theory.

**Marcelle Kosman** 34:10

What a good idea, Hannah. Let's do it!

**[Upbeat interlude music plays]**

**Hannah McGregor** 34:17

It's theory time and today we are going to talk about Jay David Bolter and Richard Grusin's iconic 2000 book, *Remediation: Understanding New Media*. Marcelle, is this a book you're familiar with?

**Marcelle Kosman** 34:32

Not at all.

**Hannah McGregor** 34:33

So here's their basic thesis. Here's what they're talking about when they talk about remediation. They argue that when we talk about new media, especially digital media, we tend to fixate on its newness. The ways in which it is different from older media, but Bolter and Grusin argue that new media generally positions itself explicitly in relation to an older one in a way that simultaneously pays homage to that older technology while also arguing that it had insufficiencies, and promising that the new media will fulfill the latent promise of the old one.

**Marcelle Kosman** 35:15

Is this kind of why a CD looks like an LP?

**Hannah McGregor** 35:20

Yeah, there's a term in the design world called skeuomorphic design. **[Marcelle laughs]** Which is when the design of a thing continues to have features that are no longer functional, but that remind us of the old thing, so like, sort of visually refers back.

**Marcelle Kosman** 35:38

Yeah, so it continues to connect to those brain things.

**Hannah McGregor** 35:45

Like how save icons still look like floppy disks, even though young people have simply never seen a floppy disk in their lives.

**Marcelle Kosman** 35:51

Exactly. I know. I know. And icons for phones still look like a telephone sometimes with a rotary dial.

**Hannah McGregor** 35:58

Yeah, no, it's amazing. It's really amazing. So rather than thinking of new media as like, a radical break with the old, it's like, it's not that the Video Killed the Radio Star. It's that video remediated the radio star.

**Marcelle Kosman** 36:12

I think, have you said this before? I feel this sounds familiar.

**Hannah McGregor** 36:16

It's a set of ideas you'll definitely have encountered because it's sort of formative in media studies. This is the process they call remediation. They talk a lot about digital film techniques in the book. It was published 23 years ago. So obviously, they're pretty early digital film techniques. But you know, they were new, so they're talking about them. So in the case of film, for example, they talk about how digital film techniques are positioned as fulfilling the promise of immersive realism that film itself sort of originally offered. So Marcelle, will you please read this quote from Bolter and Grusin, please?

**Marcelle Kosman** 36:55

Quote, "The supposed virtue of virtual reality, of video conferencing and interactive television, and of the World Wide Web is that each of these technologies repairs the inadequacy of the medium or media that it now supersedes. In each case, that inadequacy is represented as a lack of immediacy. And this seems to be generally true in the history of remediation. Photography was supposedly more immediate than painting, film then photography, television then film. And now virtual reality fulfills the promise of immediacy and supposedly ends the progression. The rhetoric of remediation favors immediacy and transparency, even though as the media matures,

it offers new opportunities for hypermediacy.” End quote. So tell me if I'm understanding this correctly, Hannah.

**Hannah McGregor** 37:51

I'm ready.

**Marcelle Kosman** 37:52

What they're saying is that, as you already kind of parsed for us a little bit, each new media positions itself as a new and improved version of the thing that came before. But immediacy is like the goal. It's like, I don't know another word for immediate. Is that why media- Does media come from immediate? Does “immediate” come from “media?” Are these etymologically linked?

**Hannah McGregor** 38:22

Yeah.

**Marcelle Kosman** 38:23

Oh, my god, I love that etymology!

**Hannah McGregor** 38:25

And it's all about mediation. Right? So, the media is a thing that comes in between you and reality. And immediacy, is the quality of or a lack of mediation, the sense that the mediation has fallen away, and that you're experiencing the thing directly or transparently.

**Marcelle Kosman** 38:48

Okay, okay. Oh, that's so interesting.

**Hannah McGregor** 38:52

So it's like the disappearance of mediation. So the point is, that the goal of the progress of technology is actually the disappearance of mediation, such that technology becomes fully transparent, like virtual reality. So the idea is that we're constantly moving towards a kind of mediation that allows us to forget that what we're seeing is mediated and mistake it for reality.

**Marcelle Kosman** 39:21

Because it can't fall away. Right? Like, the mediation cannot disappear when we are using media to create this new lived experience.

**Hannah McGregor** 39:33

Yes, yes. You're only ever imagining it. Mediation is always mediation. Media is always media. But the goal of new media is to disappear.

**Marcelle Kosman** 39:42

What do you mean by “disappear?”

**Hannah McGregor** 39:44

To render itself invisible from the perspective of the user experience, to be immersive such that you forget that what you are doing right now is experiencing something that is mediated and don't mistake it for reality. And we get better and better at doing that all the time, such that for example, it's easier and easier to computer generate photographs of things that never happened.

**Marcelle Kosman** 40:11

Creepy. Yes.

**Hannah McGregor** 40:13

Like, we treat photography as evidence of the real, because we have a tendency to forget that it's mediation. We do that all the time. We are constantly forgetting that the media that we're interacting with are media.

**Marcelle Kosman** 40:29

Can I ask you a question about hypermediacy, because I'm not sure that I understand what hypermediacy is.

**Hannah McGregor** 40:35

So hypermediacy, and the relationship between hypermediacy and immediacy is really central to what Bolter and Grusin called the double logic of remediation. So I'm going to read you a quote, now they write, quote, “our culture wants both to multiply its media and to erase all traces of mediation. Ideally, it wants to erase its media in the very act of multiplying them,” end quote. So we want media so advanced, that we cease to perceive it as media and can fully mistake it for reality. But we also want to be aware of the technology and how cool and advanced it is.

**Marcelle Kosman** 41:15

Okay. So this is what you were saying about Avatar, and how they're like, Isn't this cool? You forget that you're watching a movie, here's how we made the movie that you're watching.

**Hannah McGregor** 41:24

Precisely. So digital filming techniques, like Motion Capture, offer that promise of film, but better. So it's a remediation of film into a new medium, digital visual effects. And it's all about being like it's a film, but more immersive, more real, it feels like you're there, it feels like all of the artificial things we're creating actually exist in reality. But at the same time, creators of digital visual effects are constantly intensely hyping the effects themselves. So that it's basically impossible to think about Avatar without picturing Zoe Saldaña wearing a weird camera on her head. **[Marcelle laughs]**

**Marcelle Kosman** 42:04

Okay, okay. Okay. So are these concepts specific to, say, digital animation? Like is this specifically a “now” thing? Could these ideas have existed before we started digital... shit? **[Marcelle laughs]**

**Hannah McGregor** 42:21

Yeah, for sure. That's really central to their argument is that like, new media in 2000 was digital media. But this logic of remediation, which is the tension between immediacy and hypermediacy, has been the case since like perspectival painting came along, and people were like, Whoa, the things in the background are further away. Woah! Woah, what?

**Marcelle Kosman** 42:42

Yeah. It is so funny to look at, like early, early, early art before they developed new techniques and be like, Why did they think that people's faces look that way? **[Marcelle laughs]**

**Hannah McGregor** 42:57

Yeah. Why is everything just on the same plane? Because they hadn't come up with perspective yet. They just didn't. Nobody had done that yet. So they gave a really great example in the book that I think is so perfect for what we're talking about. So, they go back to the era of early filmmaking. And they quote film theorist Tom Gunning, who I think coined the term, “the cinema of attractions,” which is like, I know, it's like sexy cinema. It's not. It's like going to the movies, like going to see the cinema at the World Fair, where the cinema is a spectacle. Like this predated narrative cinema, which has sort of dominated, you know, the Hollywood era. It's like before cinema was a narrative form it was just a thing that you looked at and were like, what??

**Marcelle Kosman** 43:53

Wait, what? **[Marcelle and Hannah laugh]**

**Hannah McGregor** 43:57

That's my impression of people seeing movies. And probably the most famous example is the film "L'Arrivée d'un train en gare de La Ciotat." You are, of course, familiar with this famous film.

**Marcelle Kosman** 44:11

I think, is it when the train is coming towards the audience, and everybody starts screaming, I say everybody starts screaming as though I was there. This is just what I imagined happened.

**Hannah McGregor** 44:19

Yeah, it's probably an apocryphal story that people freaked out and fled when they saw the train coming towards them, but like, certainly, people were shocked and amazed, because the train seemed to be coming right at them. So Bolter and Grusin, and Gunning were saying probably audiences didn't run screaming from the theater. But the point of a film like this, which is an example of the cinema of attractions, is that it's spectacular. Like it's a spectacle. So it's about looking at a thing that you know can't be real, you're like a no, that's not a real train coming from me. But my eyes are telling me it's real, and that tension between the impression of reality, that is the immediacy of the thing, and the obvious fabrication, the hypermediacy of the thing, is part of the pleasure. So remember what James Cameron said about wanting to create a movie where people can't tell the difference between what's real and what's not?

**Marcelle Kosman** 45:38

Yes.

**Hannah McGregor** 45:39

That's "cinema of attraction."

**Marcelle Kosman** 45:42

This is like predominant cinema right now. Is that correct?

**Hannah McGregor** 45:46

It's the mode of the blockbuster in the 21st century. Yeah, so, Bolter and Grusin argue that contemporary Hollywood blockbusters have returned to this tradition of the cinema of attractions. Their top examples are the other father of the modern CG Blockbuster epic, Steven Spielberg. And they talk about "Jurassic Park" a lot in this book, which I actually didn't remember. And I am currently writing a book about Jurassic Park and I was like, fuck, gotta get some Bolter and Grusin in that book.

Anyway, so they argue that these blockbusters are returning to the tradition of the cinema of attractions by using a very loose narrative structure as a way to basically tie together a variety of visual set pieces, designed, quote, “to invoke a sense of wonder in the contemporary audience, similar to what Gunning describes, for the French audience in the grand cafe,” end quote. So we know that what we're looking at whether it's a train coming out of the screen, or a T Rex stomping on a Jeep, or a sexy blue alien riding a dinosaur,

**Marcelle Kosman** 46:54

Fucking a dinosaur.

**Hannah McGregor** 46:55

Fucking a dinosaur. We know that isn't real. But we are amazed at how real it appears. And so the viewing experience is about that oscillation between being like, it seems real. I know it's not real. It's amazing that a thing that's definitely not real seems real. I am amazed by the technologies that are happening that produce a sense of realness, even though I know it's not real. It's that oscillation between immediacy and hypermediacy. That's the viewing experience.

**Marcelle Kosman** 47:29

So does hypermediacy need to be constantly changing in order to maintain that oscillation? Because I feel like part of me feels so jaded about certain things. Like I look at them. And I'm like, well, it doesn't look real at all to me anymore because of my expectations.

**Hannah McGregor** 47:45

Yes, yes, yes. Because remediation is the logic of *new* media.

**Marcelle Kosman** 47:49

Okay, so, Hannah, I have another question. **[Marcelle laughs]** What does this constant blurring of the real and the artificial, this intentional confusion of what's really real and what's computer generated do to our understanding of actual reality?

**Hannah McGregor** 48:09

Yeah, not our understanding of media, our understanding of what actually exists in the world. It's a great question, Marcelle, and I would like us to spend some time on it in our final segment.

**[Upbeat interlude music plays]**

**Marcelle Kosman** 48:24

All right, Hannah, please tell me, what will you do in this essay?

**Hannah McGregor** 48:31

I'm ready.

**Marcelle Kosman** 48:32

**[In a sing-song voice]** Look at your long thesis, it's so long!

**Hannah McGregor** 48:36

We're gonna have a real sort of fucking escalation problem with this format. **[Marcelle laughs]** We're really gonna have to get this shit under control. But not today. With its record breaking box office of almost \$3 billion, Avatar represents the apex of contemporary filmmaking. Massive blockbusters that lean heavily on digital effects and computer generated graphics. The weakness of the plot is not an artistic failing so much as it marks a return to the cinema of attractions, in which the audience gathers to marvel at the immersive immediacy of a film that is simultaneously so obviously artificial that it is undeniably hyper mediated.

The pleasures of hypermediacy are amplified by how much of the movie's promotional campaign centers on the technological advancements required to make it. This fixation on the technological production of artificial realities, however, produces a visual spectacle that deliberately distracts us from the material conditions of production that underpin contemporary blockbusters, including the exploitative labor conditions, ingrained sexism and racism, and devastating environmental impacts. In this essay, I will argue-

**Marcelle Kosman** 50:09

Oh my god, Hannah! **[Marcelle laughs]** Hannah!

**Hannah McGregor** 50:17

You use technology to produce a new real so we stop thinking about the actual real!

**Marcelle Kosman** 50:19

Oh my goodness.

**Hannah McGregor** 50:23

This movie is a trap.

**Marcelle Kosman** 50:24

**[Sung to the tune of Barbie Girl by Aqua]** Life in digital production is a function!

**Hannah McGregor** 50:33

**[Hannah laughs]** Yeah. Like the thing is that in the movie, he gets into a fake body. And that the fake body he's in is realer than the real world that he's in. And the fake body lets him enter a fantastical immersive reality that the technology of the film itself also encourages us as viewers to imaginatively enter into, so that people watching it in 3D were blown away by the experience of like, I basically feel like I have gone to Pandora.

**Marcelle Kosman** 51:17

Yeah, so like, Jakesully is the surrogate for the audience.

**Hannah McGregor** 51:24

Yeah, literally Cameron said that he, in part, cast Sam Worthington because he hadn't been in any major films already. And he wanted a, guess what word?

**Marcelle Kosman** 51:37

He wanted a nobody. Oh no, he wanted an everyman!

**Hannah McGregor** 51:41

Yeah. He literally said in one interview that Jake Solly felt like a guy you can have a beer with. Disgusting!

**Marcelle Kosman** 51:50

Is Sam Worthington disabled in real life, or?

**Hannah McGregor** 51:54

Oh, no, absolutely not, Marcelle. I'm sorry, Marcelle. Do you know what an everyman is? Its a straight white cis able bodied American man.

**Marcelle Kosman** 52:07

Who can be anyone.

**Hannah McGregor** 52:11

Who can be anyone because that is the neutral version of humanity.

**Marcelle Kosman** 52:15

Okay, so this movie, which we're not really going to talk about content. I know, I know. But this movie, which is about the ills of neocolonialism, and racism, is a movie that was made using military technologies.

**Hannah McGregor** 52:39

But it's fine. You can use military technologies to do good things. The movie shows us that, because the Avatar technology is literally military technology. It's literally military technology that you put an explicitly imperfect human body into, because what are the main human bodies we see experiencing it? An old woman and a disabled man.

**Marcelle Kosman** 53:00

And a dweeb.

**Hannah McGregor** 53:01

And a dweeb, the three worst kinds of bodies you can have. That was irony, all those bodies rule. Those are the bodies that we see put into the military machine and outcomes fuckable aliens. It's literally the same technology as Motion Capture. It's just a narrative excuse to be like, you put a bad body in, you get a good body out. Military made it, but that's okay. The military is bad. But do not worry. We will use that technology for good. Trust us.

**Marcelle Kosman** 53:30

Just trust us. It's fine. Just trust us.

**Hannah McGregor** 53:32

It's fine. What we're doing is good.

**Marcelle Kosman** 53:34

Papa Dragon, very bad. But that's not real. That's extreme imaginary futuristic. Definitely don't worry about it. You don't have to worry about the real military because the military that's represented here is so comically evil, that it is not definitely not a representation of the real military.

**Hannah McGregor** 53:55

I heard somebody once. Now, I want to say this was Aaron Keefe talking on the podcast *Hey, Riddle, Riddle*. I might be mistaking it, but I think it was, saying that Avatar is military propaganda. And her co hosts were like, Don't be absurd. The military are the bad guys. And kind of like, laughed at her. And I was like, No, this movie's military propaganda for fucking Sure. Absolutely it is. And, you know, the point of like, the way in which it is military propaganda, is

that it makes the military look cool. Like it's making cool machines. It's making good machines, that when a good white guy who's on the right side of history uses it, like he's a good Marine. The fact that he's a Marine is part of what makes him able to identify, right? He's a warrior, they're warriors. They can act through being warriors.

**Marcelle Kosman** 54:58

And he does prove to hot Grace that he can in fact do the same work as his presumably soft boy intellectual brother.

**Hannah McGregor** 55:11

Yeah, he didn't need that fucking school. You don't need fucking school. You don't need to be a nerd, you need to be a jock. Being a jock is what makes you succeed in life. Fucking nerds. They die.

**Marcelle Kosman** 55:23

Oh, no they do, though.

**Hannah McGregor** 55:24

Yeah, they sure do.

**Marcelle Kosman** 55:25

They do. Oh, boy.

**Hannah McGregor** 55:28

Marcelle, have you been following— speaking of labor and cinema— have you been following what's going on with the writer strike right now?

**Marcelle Kosman** 55:37

Shout out to the writers and actors on strike right now because Hollywood-

**Hannah McGregor** 55:42

Union strong! Everybody go on fucking strike.

**Marcelle Kosman** 55:46

Hollywood cannot afford to pay its writers because clearly, they need all that money for their marketing budgets and their motion capture budgets.

**Hannah McGregor** 55:56

Yeah, absolutely. Can't pay writers, can't pay, you know, most—

**Marcelle Kosman** 56:03

Most actors, I know, some actors make a lot of money, but not most of them.

**Hannah McGregor** 56:08

Part of why they don't want to spend money on real people is that they're pretty sure any day now they'll be able to do all of it with computers. Yeah. And there's a really interesting, this was, you know, I simply didn't have time to get into this. But that late 90s piece on Motion Capture is really obsessed with the question of whether it's artistry or not. And that sort of partially comes out of the world of animation where hand cell animation used to be the sort of ideal of animation. It's become computer animation now. And some animators will say, like, well, it's just, you know, if it's computer generated, and it's not, it's not really art.

But part of that conversation also comes from like, the motion capture of actors, like is that real acting, if we're not actually going to see your face on screen? And a lot of the sort of accompanying paratext for Avatar emphasizes, like, Cameron wanting to be like, This is real acting and real directing, like I am capturing the nuances of their performances on camera, and then we are super, like, they really, really want it to come across as real art. But arguably, part of trying to position computer generated work as real art contributes to an argument through which we will gradually be able to replace people with computers at the performance level, right? So content generation comes out of computers, which means that studios get to own it. And then where humans work is like, in the rendering plants, where they can be mistreated, because they're not talent. They're—

**Marcelle Kosman** 58:09

Or they can be rewarded with porn Friday.

**Hannah McGregor** 58:13

Or they can be rewarded with porn Friday, a really great point. Yeah, great point. All the porn you can eat.

**Marcelle Kosman** 58:19

The thing that just, you know, keeps jumping out at me though, is that like, the people at the top aren't replacing themselves. And they literally do nothing. They do nothing.

**Hannah McGregor** 58:31

Excuse me. They take personal submersibles to the bottom of the ocean. They're doing important work. They are trying to fuck a lake.

**Marcelle Kosman** 58:39

James Cameron did lots and lots of technological development funding.

**Hannah McGregor** 58:44

I was talking to a friend about this movie. And she was like, I mean, you got to admit it's pretty cool. And I'm like, yeah no, the technology is really cool. I don't think James Cameron should have this amount of money. And she was like, oh, yeah, of course. No, of course. It's a nightmare. Of course, no question. It's a nightmare that just rich white men get to decide what technology will be. Particularly when, to Marshall McLuhan, the technology is that we have reshape our reality. And so our reality is being actively reshaped by the whims of rich white men, and the things they think are cool. And guess what they think is cool? Fucking blue aliens.

**[Material Girls Theme plays: "Shopping Mall" by Jay Arner and Jessica Delisle]**

**Marcelle Kosman** 59:35

*Material Girls* is a *Witch, Please* Production, and is distributed by Acast. You can find the rest of our episodes and our other podcasts on Acast or at [ohwitchplease.ca](http://ohwitchplease.ca). Here are some other things you can do at [ohwitchplease.ca](http://ohwitchplease.ca): you can sign up for our amazing newsletter, read our transcripts, check out our merch, find reading lists for our episodes, and learn more about our Patreon.

**Hannah McGregor** 1:00:02

If you have questions, comments, concerns, or praise – especially praise – come hang out with us at [@ohwitchplease](https://www.instagram.com/ohwitchplease) on Instagram or Twitter, or on tiktok at [ohwitchpleasepod](https://www.tiktok.com/@ohwitchpleasepod). You can also check out our Patreon at [patreon.com/ohwitchplease](https://www.patreon.com/ohwitchplease). Special thanks to everyone on the Witch, Please Productions team, including our digital content coordinator Gaby Iori **[Sound Effect of BOING]**, our social media manager and marketing designer Zoe Mix **[Sound effect of record rewinding]**, our sound engineer Erik Magnus **[Sound effect of chimes]**, and our executive producer Hannah Rehak, aka COACH **[Sound effect of sports whistle blowing]**!

**Marcelle Kosman** 1:00:47

We also have started a substack! Every month we're offering a look behind the episode. I, Marcelle, wrote our first STACK (that's what they're called) and it was all about my experience

doing the research for our Barbie x Petro-Capitalism episode. To subscribe to our substack head over to <https://ohwitchplease.substack.com/>

**Hannah McGregor** 1:01:11

Or ohwitchplease.ca where you can sign up for our Substack now! Now that has to be true before this episode goes out. **[Sound effect of sports whistle blowing]** At the end of every episode we will thank everyone who has joined our Patreon OR boosted their tier to help make our work possible.

**Marcelle Kosman** 1:01:26

Our enormous gratitude goes out to:

Devon C
Kate T
Alsdeend
Claire B
Melissa E
Marieke G
Aislin
Morgan J
Damien L
Lily T
Rachel R
Our first top-tier, Apologetic Billioniare: Elizabeth Schweinsberg

**Hannah McGregor** 1:02:02

Oh my God, thank you Elizabeth. The only billionaire we're ever known. The only billionaire we don't want to eat.

**Marcelle Kosman** 1:02:07

The only billionaire we truly love.

**Hannah McGregor** 1:02:09

We'll be back next episode to tackle another piece of pop culture through a whole new theoretical lens, but until then:

**Marcelle Kosman** 1:02:16

Later Avitators! **[Hannah laughs]**

**[*Material Girls* Theme plays: "Shopping Mall" by Jay Arner and Jessica Delisle]**