

Sawbones 391: Arsenic Wallpaper

Published November 16, 2021

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[theme music plays]

Justin: Hello everybody, and welcome to *Sawbones*: a marital tour of misguided medicine. I'm your cohost, Justin McElroy.

Sydnee: And I'm Sydnee McElroy.

Justin: And, uh, I'm so happy to be here with you, Syd. Wait, your timer! Did you start your timer? How else do you—

Sydnee: It's started.

Justin: It's started. There. Now we know—

Sydnee: Sorry.

Justin: —how long we've been podcasting for.

Sydnee: Yeah.

Justin: My dad watches our— the kiddos while we record *Sawbones* with Carol, my stepmother, and they, uh— if we're not done in 40 minutes—

Sydnee: They'll abandon the children.

Justin: —they'll abandon the children.

Sydnee: Mm-hmm.

Justin: They'll walk.

Sydnee: They'll just leave them.

Justin: They'll walk right out of the house.

Sydnee: That's not true. That was a joke. That was not true. I don't— well, I don't want— I don't want your dad and Carol to think that we...

Justin: It might be good to take dad down a peg. That's all I'm saying.

Sydnee: [laughs]

Justin: Just, you know, so he's hustling.

Sydnee: Um, well, I'll get right down to business.

Justin: Yes!

Sydnee: Justin, I'm really excited about this topic. I did not know about this, uh, this little piece of history. This is one of those where it's, like, history medical adjacent. It's medical, but... also just interesting stuff. Until Chris emailed about it, so thank you, Chris. 'Cause I— this— we have done an episode on—

Justin: Chris Nolan?

Sydnee: No.

Justin: Director of *Inception*? Wow!

Sydnee: No, it was not Chris Nolan. No, I can confirm—

Justin: Mr. Nolan, what an honor!

Sydnee: —not Chris Nolan.

Justin: What an honor it is.

Sydnee: Definitely not Chris Nolan. We have done an episode on arsenic in the past, right? Like, you can listen to that. That was back in 2016, so that's out there.

Justin: That's out there.

Sydnee: Uh, but one aspect— I went back through to see, like, did we talk about this? 'Cause I don't remember this. One aspect of arsenic that we did not discuss was its use in wallpaper.

Justin: Hmm, seems the bold— a bold choice.

Sydnee: Yes. And the impact that that may have had on... health and wellbeing, of those within the walls.

Justin: We have a terrible track— can I just say, like, walls, for humans, we have a really bad track record with walls.

Sydnee: We have a bad track record with walls?

Justin: Okay, hear me out. Seriously, no joke. Asbestos in the walls, right?

Sydnee: Yeah, yeah, yeah.

Justin: Bad.

Sydnee: Bad.

Justin: Lead paint.

Sydnee: Meh, yeah.

Justin: Bad. Arsenic in wallpaper, *apparently!*

Sydnee: Yeah.

Justin: Bad! Like, we're really bad at this. This is the one where it's like, "I don't know. Why can't we figure this out?" Everybody did mud, and we should've stopped there. Mud! This is good!

Sydnee: Well, there are issues with mud, too, but... [laughs quietly]

Justin: What do you mean?! Mud's mud! God made dirt, so dirt don't hurt! C'mon!

Sydnee: Uh—

Justin: Mud!

Sydnee: Okay. We talked about— I wanna talk about arsenic.

Justin: Dried dung. That would— that's where should've—

Sydnee: There are *definitely* issues with that.

Justin: Hmm...

Sydnee: Poop has a lot of bacteria in it.

Justin: Yeah, but you dry it, Sydnee. You heard me say dry it.

Sydnee: I know, but, like—

Justin: You heard me say dry it. I think you're being— I think you're being kind of jingoistic right now.

Sydnee: And the smell?

Justin: Yeah, the— it's dried, Sydnee. It's dried.

Sydnee: Do you think dried poop doesn't smell?

Justin: Yeah, it's dried! The smell evaporates with the water, Sydnee.

Sydnee: [laughs] Okay. I still—

Justin: I think I would know what I'm talk— I think in this area, I would know what I'm ta— you're the doctor. I'm the poop brick expert.

Sydnee: The— we— okay. We largely focused on—

Justin: Monastery monks use it. There's monks—

Sydnee: The— hmm. I don't wanna talk about dried poop anymore. There was largely— okay. We talked about arsenic as poison.

Justin: [snorts] Yeah. But now, we're gonna rehabilitate today! [through laughter] And talk about its great design properties.

Sydnee: We also talked about the fact that it was used as a medicine.

Justin: Hm.

Sydnee: That poisoned people. Like, there was— there was the intentional use of arsenic as poison. There was the unintentional "Oops, sorry, we thought it was medicine" use. Um—

Justin: [laughs]

Sydnee: We talked a lot about something called Fowler's Drops. Do you remember this? It was an arsenic-based cure-all. That hung around a long time. It was made in 1786, and used until, like, the early 1900's. [laughs quietly] For anything. Um, they also used to use arsenic for syphilis, and it could treat syphilis, sort of, if you didn't die from the arsenic, but... anyway, we didn't talk about the fact that, like, arsenic was used in a lot of other products, because, you know, those are more industrial uses, and I kind of stayed away from that. But it does have, like, a medical, obviously, angle to it.

Uh, so first, before we get into that, I want to talk about somebody named Carl Wilhelm Scheele.

Justin: Okay.

Sydnee: That's where this whole story starts. Uh, he was a Swedish-German chemist in the late 1700's, and he identified, like, a bunch of the elements. A bunch of elements and a bunch of organic acids. I know that doesn't sound very exciting, just to say, like, he identified a bunch of elements, but this next sentence is going to sound more exciting.

He discovered oxygen.

Justin: Okay. Now, hold on. He discovered... oxygen?

Sydnee: Yes, he discovered oxygen. He was the first one to, like, "Hey! Oxygen! Here it is."

Justin: Boy, times must've been tough before that!

Sydnee: [laughs quietly]

Justin: I don't know what we were doing before this.

Sydnee: He was the first one to isolate and say, like, "This is the— this is the big one."

Justin: Oh, he didn't discover oxygen.

Sydnee: I mean, like, oxygen already existed, but we didn't call it that. We didn't— well, we didn't know where— we didn't— we couldn't say, like, "There it is." Point to, like, that— that atom and be like, "There it is. There's the oxygen," until Carl.

Justin: Poor nitrogen, too. It's like, "You know, ni— you know, I make up most of the... air around you."

Sydnee: Yeah, but that's not the one we need.

Justin: Yeah, that's fair.

Sydnee: Uh, although he wasn't first to publish this, so he didn't really get the credit for it.

Justin: Who was the first to publish?

Sydnee: Somebody else.

Justin: [laughs] They're not— this is not— episode is not about them!

Sydnee: I'm not talking about them! They got enough credit for discovering oxygen, even though it was really our friend Carl. Um, and apparently, like, this was a theme. Like, at one point Isaac Asimov called

him Hard Luck Scheele because he would, like, routinely discover things and then not be the first one to write about it, and so not [through laughter] get the credit for it.

Justin: Poor guy.

Sydnee: Poor Carl. Um, but he found a bunch of elements and organic acids and all kinds of things, and published tons of papers on all this different stuff, okay? And among all of his different discoveries and things he published about, he discovered that if you mix white arsenic with nitric acid, you get arsenic acid, and then about three years later [laughs] he found that one of the salts you get from mixing arsenic acid— arsenious acid— uh, could be mixed with copper ammonium sulfate to make copper arsenide. Can you believe it?

Justin: [exaggerated] Whoa! I'm gonna need a second! To figure out what—

Sydnee: Copper arsenide.

Justin: Yeah, that's exciting!

Sydnee: Yeah!

Justin: Is it? Okay.

Sydnee: It is exciting, 'cause it was green.

Justin: Ooh! Oh, it's a dye!

Sydnee: It's a beautiful green that he discovered. It was a very, very pretty green.

Justin: This ar— this dye.

Sydnee: Uh, that would go on to be known as Scheele's green, so he did get that. Like, he did get credit for this one.

Justin: The sp— the specific— like, the shade or the dye was called Scheele's green?

Sydnee: This pigment that was made, this color.

Justin: That is pretty!

Sydnee: It was a beautiful green.

Justin: That's beautiful!

Sydnee: It, uh, would be used in paints primarily, this pigment.

Justin: I'm trying to decide how you would describe the— it's sort of like, um— I—[sighs] the word that leaps to mind is, like, jade? It's sort of like— maybe like a blue— a slightly more blue-ish jade, if that...

Sydnee: It was a very pretty— uh, copper often will make these sort of green colors. If you think of, like, the patina on metal, like on cop— like, you know what I mean? As it ages. This is sort of where we're going with this.

Justin: Did you know in Japanese they— they refer to stoplights as being red and blue? For a long time— like, they didn't distinguish for a long time, so you think of that just, like, as part of blue. It's, like, part of the blue family.

Sydnee: That's interesting.

Justin: They should have a word for it now, I mean. But, like...

Sydnee: So, he made this green.

Justin: Mm-hmm.

Sydnee: Okay? He found this green.

Justin: Or blue, depending on if you're in Japan or not.

Sydnee: Either way. It was very popular among artists of the time. Manet used this green. Um, and then building on that knowledge, another— there's the birth of another green, because both of these greens come into play in this story. Um, so we knew that arsenic and copper made lovely colors, and so there was this German paint manufacturer named Wilhelm Sattler. Another Wilhelm.

Justin: Whoa.

Sydnee: There's— there's another Wilhelm, I already talk— yeah, oh, Carl Wilhelm. There are all kinds of Wilhelms. Anyway—

Justin: [laughs quietly]

Sydnee: —he mixed vinegar with—

Justin: It was like their Bill.

Sydnee: [laughs] He mixed vinegar with white arsenic on copper carbonate, and he got another beautiful green that he would call emerald green, or Vienna green, or Paris green, or Schweinfurt green. I guess it depended on where you were, who got credit for it. Uh, but this other green—

Justin: So, I like this less. I would say this is like a, um... I love describing colors on podcasts. It's like a... sort of like a sage, like a light sage.

Sydnee: Hmm.

Justin: Is that evocative for you? It looks like the color that Disney uses on construction walls to distract you from the fact that they're doing construction there.

Sydnee: Ah, okay.

Justin: Go-away green, kind of.

Sydnee: Well, this one was very popular as well, uh, particularly among the impressionists. Um, so now we have all these beautiful, deadly green paints that have been made.

Justin: [laughs]

Sydnee: Shades. Colors. You can use 'em for anything that you want to dye, right? I'm saying paint for, like, actual, you know, artists making paintings. But, like—

Justin: Or, ironically, anything that you want to die!

Sydnee: [laughs] Yeah!

Justin: It works both ways!

Sydnee: Either— either form! Um, I do think it's important, because, uh, this is *Sawbones*, so I do think it is important to mention—

Justin: You probably thought you were listening to The Color Zone, or one of many other artistic podcasts our family makes.

Sydnee: [laughs] What would become of poor Carl?

[pause]

Justin: Oh no.

Sydnee: I mean, because on *Sawbones* I always have to follow 'em to the end, right? You know how—

Justin: Follow 'em right to the grave!

Sydnee: You know how I am. Um—

Justin: A marital tour of misguided medicine that always concludes in the grave!

Sydnee: [laughs] Poor Carl worked extensively with heavy metals.

Justin: [sighs] Doggone.

Sydnee: While making his discoveries.

Justin: You gotta keep the lab bumpin' somehow, right?

Sydnee: He would eventually—

Justin: Late hours. You gotta have— crankin' up the metal, and...

Sydnee: [laughs quietly] Not those. Like... the elements. And he would eventually meet an untimely death due to heavy metal poisoning. Um, they didn't really know it at the time but, like, years later they recognized a lot of the symptoms. Like, specifically he had a lot of mercury poisoning, but... that was a— a job hazard at the time.

Justin: [mumbling] That's always a real— always a real momentum killer, Syd. [snorts]

Sydnee: [laughs quietly] Anyway, um, well—

Justin: [laughs loudly]

Sydnee: I mean, I mention this because, like, I think that it underlines at the time we were making all of these sort of scientific discoveries, and we didn't always know what we were playing around with.

Justin: Yeah. Well, that's—

Sydnee: I mean, it's the same story with—

Justin: I mean, by definition, right? I mean, this is experimentation.

Sydnee: Yeah. Um, and, I mean, the same story would happen with radiation, right?

Justin: Of course, yeah.

Sydnee: Like, there were a lot of things that we would get exposed to in terms of radiation before we went, "Oops! That's actually... bad."

Um, anyway—

Justin: You ever worry that it's gonna be like that with cell phones?

Sydnee: I was?

Justin: Do you ever worry about that?

Sydnee: No.

Justin: Okay.

Sydnee: It's— well, it's too late. They're ubiquitous. They're here. They're with us.

Justin: Alright.

Sydnee: So, this green pigment, I guess, maybe shouldn't have been such a big deal. Um, as it turned out to be. But at this moment in history, before these colors, before these specific pigments were sort of introduced, I guess there wasn't, like, an easily made or purchased green pigment for things.

Justin: Oh, okay.

Sydnee: There just wasn't one yet. They were expensive, um, and I guess until this arsenic copper-based stuff, they weren't thought of as the best greens. Like, a lot of people thought, um, "That's a good green, but I could see a better green if I just looked at, like, a plant. A tree. [laughs quietly] Those are better greens."

Justin: So we coveted that green.

Sydnee: Yeah. [laughs]

Justin: Watching the plants get to have all the great greens.

Sydnee: Right. Like— well, and I mean I guess that makes sense if, like, you're trying to make a painting of a landscape and you want it to be something that someone would prefer to look at, to just, like, out the window.

Justin: Right.

Sydnee: It at least— at least needs to be on par with that green, right? So if you can't get to that level of green, I'm just gonna go outside.

Justin: Yeah. [snorts]

Sydnee: [laughs] I don't know.

Justin: What you are describing is, bar none, the wildest way I've ever heard a human being talk about art.

Sydnee: [laughs quietly]

Justin: "If the painting isn't better than outside, I could just—" this is how you think about art. "I could just go outside and see a tree! Make paintings that look like stuff!"

Sydnee: [laughs] This is—

Justin: "That I can't see! Make a painting about a dragon!"

Sydnee: This is— this is the way [through laughter] I think about art.

Justin: Absolutely the wildest, wildest way. I only hang paintings in the winter, because in the winter it's not sunny, and it can be sunny in painting.

Sydnee: [laughs]

Justin: [laughs quietly]

Sydnee: This is why we only have paintings of things like Jolly Pirate donuts and pepperoni rolls at our house.

Justin: Yeah!

Sydnee: I can't see those all the time, so we put them on the wall.

Justin: It's nice to be able to refer to them whenever, yeah.

Sydnee: [laughs] Anyway, um... this new pigment excited a lot of artists, but it also caught the attention of others, so not just people who made fine art but, like, designers, people in, you know, industrial designing-type things. Um, and specifically wallpaper designers. Wallpaper color was an issue.

Um, wallpaper was really big as we're moving into, like, the mid-1800's. Wallpaper was having its moment big time, right? Like, everybody wanted

wallpaper. Because previously, like, a more fashionable choice would be, like, to have, you know, tapestries or some sort of textile kind of thing. Like, you know, those— like old-fashioned beautiful wall coverings and stuff.

Justin: I gotcha.

Sydnee: Wallpaper was really taking over, if you could afford it. Um, and it was becoming more affordable in response to this. And then, uh, the other big problem, though, is that you had to be really careful what sort of colors you put on the wall, because... we're— we're moving from the time where many houses would've been lit by, like, candles and things like that into the oil— into the oil and gas lamp time period, and prior to you having oil and gas lamps everywhere, um, I guess by candlelight a lot of really bright colors would look very dingy.

So, like, in the daytime if you had a green or blue on your wall or something, it might look really pretty, but then as the sun set and you were just lighting your house by candlelight, it looked bad. It looked gross. And so you had to be really careful what you chose to put on your walls. With the use of oil and gas lamps, it all of the sudden allowed for you to use different colors on the walls.

Justin: Hm, I see what you're saying, yeah.

Sydnee: Right? Like, all of the sudden it was desirable to put brighter colors, like these greens, on the walls. And, uh, this new pigment really helped with that, because now all of the sudden you could use it. You could use this bright green. Um, and it also— I'm saying "green," but, like, it wasn't just green. You could use this as part of blues. It was also part of yellows. There were a lot of different colors of wallpaper and dyes of wallpaper that would come to incorporate these compounds. Um, including arsenic. Uh, because it was such a beautiful pigment, right?

So anyway, you could put this in and it would look like the greens outside. It could make yellows and blues more vibrant. It would really liven up your room, and now we had the lighting to actually see it.

Um, and this is where our next figure, who ultimately would be responsible for this becoming so widespread, comes into play. Um, I think describing him as a wallpaper designer first is probably not fair. [laughs quietly] Um, 'cause he did a lot of other things that are probably a bigger deal, more important than, like, designing wallpaper. But I want to talk about William Morris.

Justin: Hm.

Sydnee: And I'm gonna tell you more about him...

Justin: [scoffs]

Sydnee: ... right after we go to the billing department.

Justin: Let's go!

[ad break]

Justin: Sydnee, you had a new character to, uh— to start following. Who are we keeping up with now?

Sydnee: William Morris. Now, I realize that it sounded like I was throwing shade at wallpaper designers. I didn't mean to do that. I just meant that William Morris did not primarily think of himself as a wallpaper designer. He didn't like that sort of industrial design kind of stuff. He was really more into, like, the finer arts.

Justin: Hmm!

Sydnee: He did that stuff, but he—

Justin: I can respect that.

Sydnee: —he liked to be known for his poetry, and his fine art, and his writing, and, um, he was a, uh, a socialist who had a huge, like, social impact on British society, um, and culture. And, uh— and so I think he would rather be remembered for those things, because he didn't— he particularly didn't even like wallpaper.

Justin: Oh, really?

Sydnee: No, he thought it was— it was just what you did if you couldn't have fine, like, textiles hanging on your walls.

Justin: Hmm!

Sydnee: Then I guess you could resort to wallpaper. But in his mind, it was not what you should use. Um, so anyway, he made art and poetry, but he started this design company called Morris, Marshall, Faulkner, and Company, and it designed fabrics, and furniture, and stained glass windows, and tapestries, and of course wallpaper as well.

Justin: The finer things.

Sydnee: And it was like sort of a bunch of artists working together, and their initial goal was to sell, like— they thought that the, um— the

manufacturing practices of the time, like, these— of the Victorian era, were kind of shoddy.

Justin: Mm-hmm.

Sydnee: And this was sort of a rebellion. Like, a return to more natural things. We're gonna use— we're gonna make hand-crafted things, and we're gonna use natural dyes, and natural substances—

Justin: Bespoke.

Sydnee: Yeah.

Justin: Artisanal.

Sydnee: Yeah. And, like, he even— he even tried to form this sort of, like, little kind of artist collective for a while, and that was not— that was a short-lived sort of project. Almost commune-esque, uh, but again, that was not— he didn't really do that. And he tried to run his business initially with, like, very socialist sort of... principles.

Justin: Respect.

Sydnee: Um, but... he— but there were some problems. He struggled with that, 'cause, as he said, like, it was hard to run a socialist business in a capitalist economy.

Justin: Fair.

Sydnee: Um, anyway. So, he designed these as part of all this work that they did. He did design these very beautiful wallpapers, and they were very different than what was in fashion, because they had these sort of, like, this grand scale, you know? Um, something with, like, a very, like, large, intricate pattern that you would put on a bigger wall. Right— you know what I'm saying?

Justin: Yeah.

Sydnee: Um, they were very pretty. They were different than what a lot of people had. And even though this group that made this work kind of fancied themselves, like, Bohemian, these were loved. The things that they created were really loved by the wealthy and elite.

Justin: Ahh, ain't it always the way?

Sydnee: Yeah. I mean, including royalty. Like, he would eventually design for both London's St. James Palace and Balmoral Castle. Some

really cool— the one at Balmoral Castle I think I think is very cool. It has, like, their initials in the design, and... I don't know.

Justin: But now I can do that in *Animal Crossing*, and it's like, so what?

Sydnee: [laughs]

Justin: You know?

Sydnee: Um, he also— they did make affordable wallpaper for the people as well.

Justin: Nice!

Sydnee: Um, and the people loved it. And, uh, his designs, and then other companies would follow suit. Like, this would start this trend. This would really take off. He was not the only one making wallpaper, and as I'm gonna get into, he was not the only one making wallpaper who would use these pigments and dyes that contained arsenic. Um, many companies did this. It's just his were the best, right? So he wasn't, like, doing anything worse than anybody else at the time. His were just... the prettiest.

Justin: It's not unlike comedy podcasts.

Sydnee: You can look u—[laughs] you can look up William Morris wallpaper designs online. They're beautiful.

Justin: Okay.

Sydnee: Um, like, the trellis design, one of the first ones, was really famous. Anyway, there's some beautiful designs you can see if you're interested, and he did make great use of this beautiful, um—

Justin: Oh!

Sydnee: Right? They're beautiful. And he made great use of this beautiful [holding back laughter] arsenic-based green pigment.

Justin: This reminds me— you know what the— okay, let me tell you. If you're driving— I'll give you the vibe. And, I'm, like, such a not aesthetic person. But it looks like— it reminds me of something you'd see in, like— when a Wes Andersen movie shows the text for the title of the movie, I imagine it, like, in front of a background like this. You know what I mean?

Sydnee: Yes, that is a good— yes, that is a good vibe. And the— a lot of them look like that. I mean, they're very beautiful, you know. I...

Justin: They're beautiful. I mean, they're great. I mean, like, I don't like wallpaper—

Sydnee: I was gonna say, I always prefer, like, solid walls, because I like... my mind is busy enough. I can't also have wallpaper patterns. But anyway, if I did like wallpaper. They're gorgeous. Um, maybe would could take just, like, a piece of it and hang it as a piece of art.

Justin: Oh! Bold.

Sydnee: As long as it's not something [holding back laughter] I can see outside.

Justin: Right, or I'm guessing— I don't mean to get ahead of you— or poison.

Sydnee: Well, yeah. So, at this point— so, they're making all this wallpaper and as you—

Justin: Oh no, he's got birds on these! What's the point?

Sydnee: [laughs] As you guess— as you might guess, where we're going— like, wallpaper is doing huge business throughout the 1860's and 70's all throughout the UK. Even over the US, it was big. Like, wallpaper's big. His designs are huge. This pigment is in tons of different wallpapers that are being made. Not just his, but lots. They're being— they're being pushed out all over Victorian homes everywhere. So, the poisonous nature of arsenic was already known. Like, they knew what was going into the paint. They knew what was going into the dyes for the wallpaper. Like, nobody— nobody was ignorant to that. They knew that.

Um, they actually used to call arsenic "inheritance powder."

Justin: Ooh!

Sydnee: You get it?

Justin: No.

[pause]

Sydnee: 'Cause it was poisonous.

Justin: Oh.

Sydnee: And if you wanted to inherit something...

Justin: Ohhh! I get it now.

Sydnee: Yeah.

Justin: Okay, I'm with you.

Sydnee: So anyway, so everybody knew it could kill you. I mean, that was not unknown. But it was everywhere. The thing is, it was thought that, like, the big problem with arsenic is taking too much. [holding back laughter] As long as you limit... how much arsenic you consume, or whatever, you're gonna be okay.

Justin: Just like— just like cashews.

Sydnee: [laughs]

Justin: You know, you have a few, great. Eat a pound of cashews, you're not gonna feel great.

Sydnee: So, bakers used it in food coloring at the time. You could have things that had food coloring in them, and they were arsenic-based colors.

Justin: Oh my.

Sydnee: Um, it was sometimes added unknown, as well as, like, a bulking agent, an arsenic-based compound.

Justin: [snorts]

Sydnee: Um, there were arsenic complexion wafers? That you took— like, you ingested these wafers.

Justin: [simultaneously] Oh, that is a rough phrase.

Sydnee: And they would make you— 'cause at the time— we've talked about this before. In the Victorian era, it became fashionable to look very, like... sort of pale and sickly. [laughs quietly]

Justin: Yeah.

Sydnee: And, like— look like you had tuberculosis, was the— that was the— we've talked about it on the tuberculosis episode. That was very much in fashion. It was a romantic look. And this would make you look... pale. Because it made you anemic, probably.

But anyway, so you could eat arsenic for that. Um, there were these, like, fake wreaths of leaves and flowers that they would make for hair, and

that was a very fashionable look at this moment, and they were dyed using this arsenic stuff.

Actually, artificial flowers were a really common source of poisoning. Like, the people who would make these beautiful little artificial flowers would get covered in these dyes and get arsenic poisoning pretty frequently, um, because of that. Baby carriage fabric—

Justin: Perfect!

Sydnee: —had arsenic in it. Clothes had arsenic in them, in the dyes. Um, there was even a case of this orphanage in Boston where the babies were getting sick, and they finally figured out it was because the, um—the staff wore these [laughs quietly] gorgeous blue aprons that were dyed with arsenic-laden pigment, and when they would cradle the babies next to their arsenic aprons, they babies were getting arsenic poisoning. Anyway, so, it was everywhere, right?

So of course it was in the wallpaper. Of course it was being used in the dyes. Um, and the manufacturing company that made all of Morris's designs, they used it too, so that was not strange. But it is fair to say that even as it was everywhere, by the 1860's, there was a growing concern that maybe we're letting the arsenic get out of control.

Justin: [laughs quietly] Maybe too much of this great poisonous stuff.

Sydnee: And a lot of this started with the mining industry, so it— okay. It started with copper mining, but when— in a copper mine, I guess there are often layers of arsenic sulfide around the copper.

Justin: Okay.

Sydnee: And initially you would just leave that in place. Now, this was already a problem, 'cause as you're mining the copper, you're kicking up arsenic dust, and so this is a problem for the miners.

But then later, as copper prices fell, you could also mine the arsenic, which exposed you, of course, to lots of arsenic dust. One such mine that did this— and this all fits into this story— was the Devonshire Great Consolidated Copper Mining Company, whose founding shareholder was William Morris Sr.

Justin: [quietly] Ohh, his dad.

Sydnee: William Morris's dad, and Junior would later sit on the board of this mining company that went on to mine lots and lots of arsenic.

Justin: Hmm.

Sydnee: Um, and the reason I mention all this is because the miners got sick. I mean, this is a story that we know very well.

Justin: A tale as old as time.

Sydnee: The miners got sick, and there was no question that inhaling arsenic all day is bad for you, while you're mining arsenic, or copper with arsenic around it. Um, and that also— like, they would get skin lesions from touching the arsenic all day. Like, it was very clear people were getting sick from the arsenic.

And doctors started raising concern that, you know, we've seen all these miners getting sick, and it looks like this. And then they started putting these pieces together as wallpaper is everywhere, and everybody's got these arsenic wallpapers. Like... could that make you sick?

Justin: [quietly] Hold on a second.

Sydnee: And then as soon as the concern is raised—

Justin: Somebody hates these cans!

Sydnee: —you start noticing, like, "Well now, I did have that one patient that came in the other day, and I couldn't explain why they were sick."

Which, to be fair, in the 1860's... we— we—

Justin: It was a lot easier to not know.

Sydnee: We rarely knew why people were sick. [laughs] We were still very early into figuring out why people— we barely know now, sometimes. But they— so they didn't— they were, like— just started attributing this. Like, "Oh, people are sick. I wonder if it's the wallpaper?"

And then, lots of unexplained illnesses started to click into place, right?

Justin: Yeah.

Sydnee: Um, so following that, there was a doctor who published his own account of, like, you know, "I've got this green study. [laughs quietly] And I think it's making me sick."

Um, people would, like, take down all their wallpaper and say, like, they've been miraculously cured, because they got rid of their poisonous wallpaper. *The Lancet* published an article basically saying, like, "Look. We don't know for sure, but it seems bad to have arsenic in your wallpaper all around you all day long. And, like, we know arsenic is

poisonous because of these miners, and so, like, maybe we should... not do that anymore?"

Justin: Syd, this is momentous in *Sawbones* history! This could be the first time that a cure-all is actually effective. The cure-all of—

Sydnee: You just take the wallpaper down? [laughs]

Justin: —getting the ar— getting the arsenic out of your house. Like, yeah! It's all— it fixes a lot of stuff!

Sydnee: It— well, it really was shifting—

Justin: Arsenic removal.

Sydnee: You have to understand, this is a moment where we're shifting the idea from, "Too much arsenic is bad for you," to...

Justin: [laughs]

Sydnee: "Really, any arsenic is not ideal." [laughs] Um— and so a lot of wallpaper companies started advertising, "Hey, we now make arsenic-free wallpaper for your home."

Now, that took— it took a while for people to really care or catch on, because they— what if they're not as beautiful? [laughs quietly] You know, humans are always humans.

Justin: Yeah.

Sydnee: And, uh, as one doctor wrote at the time, "A great deal of slow poisoning is going on in Great Britain."

So, there is a thought that, like, as we look at this moment in history where everybody had arsenic on their walls for a few decades and then took it down, the thought was that arsenic dyes are probably okay if the room is dry and well-ventilated.

Justin: Mm-hmm.

Sydnee: It's similar to the conversation we've had about asbestos. Just having asbestos in a wall doesn't necessarily make you sick, right? It's when it degrades over time.

Justin: Mm-hmm.

Sydnee: Or in the removal process. These are the times where you worry about it, and this was sort of the same idea we might have about

these arsenic-based dyes in the wallpaper. If you have a room, dry, well-ventilated, it's probably not poisoning you. But if you do have a room that's damp, um, you've got moisture in the room, and the paper starts to, like, flake and degrade, the glue starts to degrade, all that, you know, like, then it could definitely— and, like, there were cases of, like, kids eating flakes of wallpaper, just like we've heard with lead paint.

Justin: Sure.

Sydnee: Eating flakes of lead paint and getting sick. There was also this concern that was raised later in a paper where, like, if certain fungal growths occurred on the wallpaper, then that would interact with the arsenic in the dye, and then this toxic gas could be released. And they talked about rooms that smelled... some of them they said "mousy," which isn't what we usually associate with arsenic. A quote, unquote, "mousy" smell.

Justin: Mousy?

Sydnee: That's what they would say. It would give off a mousy smell. But then sometimes they would say it would give you that garlicy smell, and that is arsenic. There's an arsenic gas compound that is deadly, and it has a garlicy smell. So, like, if you smelled that in a room, it is not unreasonable to think... I mean, it could be the wallpaper.

Um, so everybody started to get really worried and take down their wallpaper. Morris didn't buy it. It's interesting. It's this weird— 'cause this guy was so for— like I said, he was a socialist. He fought for, like, workers' rights, and for, um, using, like, safer products, kind of like an environmentalist? You know.

Justin: Yeah, yeah.

Sydnee: But, like, at the same time, he really didn't think that the arsenic was a problem. Um, he said that the doctors who claimed that... honestly, the miners who were so sick, and that these people with the wallpaper were so sick, he said that the doctors were bitten by the witch fever. Which is, like, the title, if you're interested—

Justin: The witch hunt of— yeah.

Sydnee: Yeah, if you're interested, *Bitten by the Witch Fever* is the title of a book about all of this as well. But, uh, so it's a very eloquent... phrase. Um, unfortunately, he was wrong.

Justin: Yeah.

Sydnee: Um—[laughs] uh, but by 1883 he also said, "You know what? Why don't we just get rid of the arsenic so we don't have to fight about this anymore."

Um, and he would move on to focusing on socialism at that point, anyway, and kind of, like, devote his life to activism, and not so much to wallpaper.

Justin: Hey!

Sydnee: Um, but for about 20 years in the 1800's, wallpaper with arsenic was really in vogue, and we don't know exactly— I mean, like, to this day it's kind of controversial. Did people get sick? We don't know 100%. It's certainly possible, and we have lots of mechanisms, but there are other people who write that, like, all of this was... sort of a trumped-up concern, and that it probably didn't make anybody sick. Um, it was never banned.

Justin: Oh, really?

Sydnee: Which is interesting.

Justin: We just moved away from it due to consumer pressure?

Sydnee: Exactly. In 1903 the British Government set standards on how much arsenic you could put in food and drink. [laughs quietly] Which is good! That's a good thing to limit.

Um, but not in wallpaper. It's just people didn't want it anymore. This is also— I think this is interesting to note. Um, this is part of the, uh, this is thought to be part of the inspiration for the story *The Yellow Wallpaper*. Have you ever read that? By Charlotte Perkins Gilman. It's a wonderful story. It's not— it's not about wallpaper. Her big inspiration was her own—

Justin: That's a bad title, then.

Sydnee: Well—[laughs] I mean, it's not— it is not drawing just from this arsenic wallpaper. What it's really about— it's a wonderful story about her own— she had post-partum depression, and she was treated with the rest cure at the time, which involved, like, sit in a room quietly, sleep all the time, and don't write, or draw, or interact with humans and stuff, which was really bad, obviously. Like, really dangerous. Anyway—

Justin: Depression smoothie.

Sydnee: It's a great— it's a great story that's really about the patriarchy, and it's a feminist piece, and it's wonderful. I would highly

recommend it. But also, the idea of poisonous wallpaper... you can see where that inspiration may have come from. And as, uh, Chris, who sent us the email suggesting this topic, noted, because of this, there are books that to this day, when people are studying older works of literature, that they can't touch, because there was a time period when arsenic was so in vogue where you could also dip your books in arsenic to keep, like, pests out and stuff.

Justin: Oh my gosh.

Sydnee: So there are books that to this day you can't physically handle, because they're just... they've got arsenic in 'em.

Justin: It's what I've been saying about books from the beginning, folks. Nothing but trouble!

Sydnee: There—[laughs] there are books of this wallpaper that you can't touch, 'cause there's arsenic in 'em, which is fascinating.

Justin: That's wild. Hey, thank you so much for listening to our podcast. Uh, we have a book, if you are interested in that sort of thing. Uh, it's called *The Sawbones Book*.

Sydnee: It does not have any arsenic—

Justin: In it.

Sydnee: —in it. Now, there is—

Justin: That we know of.

Sydnee: It— well, there is a part about arsenic in it.

Justin: But not—

Sydnee: But there's no actual arsenic.

Justin: Arsenic, yeah. Uh, you can find that wherever fine books are sold. Um... what else, Syd? Uh, thanks to The Taxpayers for the use of their song, "Medicines," as the intro and outro of our program. And thanks to you for listening! We really appreciate that. That's gonna do it for us for this week, so until next time, my name is Justin McElroy.

Sydnee: And I'm Sydnee McElroy.

Justin: And, as always, don't drill a hole in your head!

[chord]

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