

## Sawbones 401: Ben Franklin's Glass Armonica

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**Clint:** *Sawbones* is a show about medical history, and nothing the hosts say should be taken as medical advice or opinion. It's for fun. Can't you just have fun for an hour and not try to diagnose your mystery boil? We think you've earned it. Just sit back, relax, and enjoy a moment of distraction from that weird growth. You're worth it.

[theme music plays]

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

**Sydnee:** And I'm— am I also beloved?

**Justin:** Duly— yeah, you're beloved, in a sense. For sure.

**Sydnee:** Okay. Sydnee McElroy. See, I feel weird calling myself beloved, but I guess that doesn't really... bother you.

**Justin:** I mean, proof's in the pudding, you know?

**Sydnee:** Yeah. Okay, well.

**Justin:** People love it. They're wild about this guy.

**Sydnee:** They are? [laughs quietly]

**Justin:** They're wild about him!

**Sydnee:** I mean, I know I am, but...

**Justin:** Never better.

**Sydnee:** I wish I had that confidence. How do you get that?

**Justin:** Just be born a straight white dude. Then it just comes with the territory.

**Sydnee:** Hmm.

**Justin:** They hand it to you. A certificate, with your baby booties.

**Sydnee:** Good. I'll remember— I'll remember that in my next go round. Uh, Justin. You're not enjoying hearing today.

**Justin:** Oh, boy. That is putting it mildly, Syd.

**Sydnee:** You're having some issues with your hearing.

**Justin:** I didn't think this would get this real, but yeah, for sure, I've got some sort of... like, really painful tin-itis.

**Sydnee:** Which—

**Justin:** Tinnitus.

**Sydnee:** Yeah, tinnitus. I mean, you can say tin-itis if you want. I know what you mean.

**Justin:** Okay.

**Sydnee:** I think we can play fast and loose with those things as long as it's identifiable as the word that you're trying to... you know?

**Justin:** Mm-hmm. But I don't wanna get— I know that sometimes if you say a medical word different from how some people say it, even if the way you say it is right, you'll get emails from a buncha, well, guys, telling you that you did it wrong, so I just didn't want that to happen to me.

**Sydnee:** This is true. I— as—[laughs quietly] as we've learned on this podcast, uh, candida [emphasis on "can"] and candida [emphasis on "di"] are both fine, when you're talking about the yeast.

**Justin:** Mm-hmm.

**Sydnee:** They're both fine. I was taught candida [emphasis on "can"]. Some were taught candida [emphasis on "di"]. They're acceptable.

**Justin:** Don't dig up this corpse again, Sydnee. We can't go through this again.

**Sydnee:** I'm just saying, they're both fine. There's no judgment on either side here. This is a safe space to, uh, pronounce scientific words in the way you see fit. This is a safe space for that. [laughs quietly] 'Cause some of 'em are weird. People mispronounce prescription drug names all the time, and as long as I can figure out what they mean, who cares? It's fine. You know, they're weird. They're tough.

Anyway, it's— because you're having some hearing difficulties, I thought it was a weird day to be talking about a musical instrument.

**Justin:** Yeah. Yeah.

**Sydnee:** Sorry. I won't— I won't play it for you. I couldn't. Don't have one.

**Justin:** No, it's fine. I'm glad our children— whatever you're talking about, I'm just glad our children won't have one.

**Sydnee:** Yeah, me too. I'm gonna get into it. You can— at some point you're gonna need to look at a picture of it, I bet. You're gonna want to google up a picture of this thing. Um, and if we had one in our house it would be shattered, and we would all have cuts. [laughs quietly]

**Justin:** I— really? That sounds terrible.

**Sydnee:** It's Ben Franklin's glass armonica.

**Justin:** Like a— oh, like, um...

**Sydnee:** Not harmonica, armonica, although some people do call it a harmonica. Either way. Harmony is what it means.

**Justin:** So we can— so why are we talking about that?

**Sydnee:** Are you looking at a picture of it right now?

**Justin:** Well, I pulled up a video in case people wanted to hear a sample of it.

**Sydnee:** Yeah, I figure at some point you would want to do that. Um, thank you to Eli and Katie for recommending this topic. And then after I had already put it all together and was ready to record our episode, Rebecca also wrote in and suggested it, so... technically I thought of it first, Rebecca, but I'm gonna thank you too, 'cause you did write in. So, thank you all for recommending this. I had not heard of this instrument and its deadly history.

**Justin:** Deadly?

**Sydnee:** Yes. It's a— it's been known as a— a killer musical instrument.

**Justin:** A killer?

**Sydnee:** Yeah.

**Justin:** Really? That sounds—

**Sydnee:** Deadly. It was banned. It has a whole history. This is why we're talking about it on a medical history show, in case you were wondering.

You know the sound it makes when... let's say you have a glass full of water. Or, like, there's your glass full of iced coffee. I don't think that's gonna work. But a glass full of water.

**Justin:** That'll work.

**Sydnee:** And...

**Justin:** I know what you're talking about.

**Sydnee:** ... you take a wet finger. Yeah, Justin's doing it. And, I mean, I could describe that to you, but you probably know what that looks like. [pause] except for how excited he looks.

**Justin:** [wheezes]

**Sydnee:** Like, the look of, like, childlike glee as he's rubbing his finger around the rim of this glass.

**Justin:** [wheeze-laughs] It's just—

**Sydnee:** In an attempt to make it make a noise.

**Justin:** I know there's— shh!

[quiet plastic squeaking]

**Justin:** [cough-laughs]

**Sydnee:** That is not the noise!

**Justin:** You know?

**Sydnee:** That is not the beautiful—

**Justin:** Shh! They're missing it!

[quiet plastic squeaking]

**Justin:** [laughs loudly]

**Sydnee:** Okay. Not that. That is not the lovely—

**Justin:** Not even close.

**Sydnee:** —resonant—

**Justin:** [laughs]

**Sydnee:** —tone... that I was referencing. You know, when some people do it, it makes a nice sound?

**Justin:** I've seen people do that before. They have those, like, at, uh, COSI. They have the balls. You know— you the ones—

**Sydnee:** Yes.

**Justin:** —where you rub and— yeah.

**Sydnee:** So—yes. And people have known this for a long time. Like, people had glasses of water long enough for somebody to idly rub their finger around the edge and then go, "Oh! Oh my!"

**Justin:** "This made a dry fart noise!"

**Sydnee:** Oh my— no, not—[laughs quietly]

**Justin:** "Who would want to listen to this?"

**Sydnee:** Like, back to Renaissance times, people write about, like, "Did you know this worked?" Um, and anything— anything that uses, like, glass like that is that class of instruments. This is a family of instruments.

**Justin:** Really?

**Sydnee:** Crys— crystallophones?

**Justin:** Crystallophones. That's a nice word.

**Sydnee:** They're— and they're a variety of glass instruments, not just this armonica that we're focusing on. It has the medical history, but there are a variety of glass instruments.

**Justin:** I feel like you're a British person talking about harmonicas. [laughs quietly]

**Sydnee:** [laughs] Like— like a Cockney kind of thing?

**Justin:** [bad British accent] Oh, 'armonica! [wheezes] Gov!

**Sydnee:** [laughs] [bad British accent] That's a nice 'armonica, gov!

**Justin:** Yeah. That's perfect, Sydnee.

**Sydnee:** There's my British accent.

**Justin:** You sound like you were born below the Bowery Bells. Like—

**Sydnee:** I can't do any accents of anything. All I can do is try to soften my West Virginia, and then it comes back. It comes roarin' right back. But that's— those are— that's it. That's the extent of my accents. The, uh— the first person to play an instrument of glass was actually— it was a glass harp, which is different. That is, like, rubbing your fingers around the rims of glasses and water and all that. That's the glass harp, which is different than what we're talking about.

But, uh, that was an Irish musician, Richard Pockrich. And he would perform in London back in the 1740s. Uh, but— and this is— I think this— the reason I mention that, this part of it, even though this isn't the armonica, this was, like, a precursor. This is what would eventually inspire the armonica, were these other instruments. And, um, he had a— his career could have been an illustrious glass harp career, was cut short because there was a, uh— a fire in his room that killed him and destroyed his glass harp. I mention that because there's, like, a—

**Justin:** [simultaneously] What a beautiful story, Sydnee! Thank you!

**Sydnee:** No! There's, like, a sinister history behind this instrument. I— you will see why people have weird ideas about it.

**Justin:** Okay.

**Sydnee:** Okay. So, anyway, uh... Edward Delaval, who was a friend of Ben Franklin, okay? Ben Franklin is going to be part of this story. All of the stuff that Pockrich had done, he extended those kinds of, like, "I wanna also build on this glass harp technology and make instruments like that."

And he would make sets of glasses that were sort of tuned, better tuned already, right? 'Cause, like, the amount of water in the glass has to do with the sound it makes and all that. So, like, it would take a while. That's a pretty time intensive, labor-intensive process to, like, slowly add and subtract. I'm imagining, like, with a dropper. Taking out a few drops of water and checking and tone and doing it again.

And, anyway, so he came up with a better instrument that was easier to play and better tuned and that kind of thing, built on— you know, built on what we already knew. And, um, and of course— do I need to remind everybody who Ben Franklin was?

**Justin:** Our greatest President.

**Sydnee:** No, he was not a President.

**Justin:** Hmm.

**Sydnee:** You know that, right?

**Justin:** Yeah, I know.

**Sydnee:** Okay.

**Justin:** I just— if you say it sometimes and nobody comments on it, you get a lot of fun tweets. It's worth— it's worth it.

**Sydnee:** He was the kite and the key guy.

**Justin:** Yes! The kite and the key guy.

**Sydnee:** [laughs]

**Justin:** Bifocals, post office, the word "news," electricity.

**Sydnee:** There you go.

**Justin:** Um, there's a dele— he couldn't quite make the cut into *Hamilton*, but he did get that...

**Sydnee:** He was almost in *Hamilton*.

**Justin:** ... that great Decemberists cover.

**Sydnee:** He was in *1776*, though.

**Justin:** Yes, indeed. We all remember his great song in that one. "[singing] Let's go fly a kite."

**Sydnee:** No, I don't think that... I don't think that's... connected... to *1776*. Does everybody know *1776* as well as we do? Like, when we reference that musical are we [holding back laughter] the only ones?



Are there people out there going, "What? Do you mean the year 1776? Like, yes, he was in the year 1776."

That's a musical.

**Justin:** They may be thinking, like, maybe if someone would sing... a few bars—

**Sydnee:** Go for it.

**Justin:** —of it. I'll just get dad down here.

**Sydnee:** Oh yeah, there we go. [laughs]

**Justin:** "[singing loudly] Vote yes! Vote yes! Vote for independence, hey!"

**Sydnee:** Okay.

**Justin:** Dad'll, like— dad'll hear that through the ceiling and he'll come, like— he'll dig a whole through the ceiling like, "Wait, wait, wait, wait, wait!"

**Sydnee:** "Hold on, hold on, I know this!"

**Justin:** "Hold on, wait, wait, wait, I got this!"

**Sydnee:** [laughs] "Did you need me?" [laughs quietly] "I heard you call." Anyway. So, Ben Franklin, not in *Hamilton*, didn't make the cut, but he did travel around Europe a bunch, so he did have that going for him. And he loved a lot of that stuff over there. He loved all the European stuff, the British stuff he saw. All of it, right? Real big fan of all—

**Justin:** Loved stuff. [laughs quietly]

**Sydnee:** Everything that was going on over there, um, outside of the budding United States. Um, he—

**Justin:** Gout. Had gout.

**Sydnee:** [laughs quietly] Yep. Had gout. Anyway, there's the stuff we know about Ben Franklin.

**Justin:** How many inventions— how many inventions do you think Ben Franklin did where he was like, "Certainly after this many inventions history will forget my gout."

**Sydnee:** [laughs] Nope!

**Justin:** Nope!

**Sydnee:** We'll never forget your gout. Uh, so he saw one of these performances with the glasses and the water from Edward Delaval in Cambridge in 1761. And he was just— he loved it. Fantastic. It seems in his area, right? Like, it's cool. It's like science, and music, and it's weird, and who in the world ever thought of this? And— like, it's very Ben Franklin.

**Justin:** It's the exact same impulse that drives people just like Ben Franklin into the waiting arms of the theremin some 200-odd years later.

**Sydnee:** [laughs]

**Justin:** It's the exact same impulse.

**Sydnee:** So, he thought he could do it better. He was like, "I love all that you're doing, but I think we could make an instrument, instead of just, like, a bunch of glasses. I think we could make something better."

Um, so he set to work inventing it. He invented lots of stuff. Why not this? So he invents his own instrument. Um, he had to work with a glass blower, because again, these are glass— glass-based instruments. I bet you didn't play a lot of glass-based instruments.

**Justin:** Who, me?

**Sydnee:** Yeah. Well, I know you played other instruments that you made up, so.

**Justin:** Never glass-based.

**Sydnee:** Um, anyway, so he—

**Justin:** I mean, you saw my skills with the iced coffee.

**Sydnee:** Yeah. You need a lot of practice. So, he worked with a glass blower named Charles James, and he helped him create an instrument that he would, like I said, go on to call the armonica. Um, but basically— and I would really encourage you, like, if you just google glass armonica or Ben Franklin's glass armonica, you will see pictures of this. I would encourage you to look at a picture of this thing. Um, because it's wild.

So, you use it with a treadle. Like, you— you know? With your foot? Operate it. And it's got a bunch of glass bowls, alright? 37 of them, to be exact. And there's, like, an iron spindle in the middle.

So you have this horizontal iron spindle, and then these glass bowls along the spindle sort of like kind of inside of one another a little bit, you know?

**Justin:** Yeah.

**Sydnee:** Like, stacked on their sides.

**Justin:** Yeah.

**Sydnee:** Does that— is that a good description? You're looking at one.

**Justin:** Yeah, I think that that's fair.

**Sydnee:** So you use the foot—

**Justin:** It's hard to picture but it's like—

**Sydnee:** It's like a Christmas tree of glass bowls on its side, kind of.

**Justin:** Yes.

**Sydnee:** Somewhat.

**Justin:** Yes, okay. Inside a wooden box with a big wheel on the side.

**Sydnee:** Yeah. And you use a foot pedal to move it. The way that you make sound with this thing is that as it rotates, as the bowls spin, you will... [laughs quietly] moisten your fingers with some water and then rub them along the e— or

just hold them along the edge of a bowl, right? So instead of you having to move your finger, the bowl moves, and your finger stays still. You got it?

**Justin:** Got it.

**Sydnee:** Same idea. Um, and the rims were painted different colors so you know what kind of a note, like, it was gonna produce. Like, A was dark blue, B was purple. So on and so forth. I don't need to tell—

**Justin:** No, list 'em all.

**Sydnee:** No, I'm not gonna tell— that's boring. But you can look 'em up if you really want to know. And, uh, the cool thing about it is that you could play— because they were so close together, and you could get your fingers on multiple ones on the same time, you could play different chords and stuff a lot simpler than you could with, like, the glass harp, right?

**Justin:** What about sharps and flats?

**Sydnee:** Yes, those were marked white.

**Justin:** The acci—

**Sydnee:** Those were on there.

**Justin:** —the accidentals.

**Sydnee:** Yes, the accidentals. Those were marked white. Uh, so anyways— so you could play different chords and stuff, um, and it was a more advanced sort of glass harp-esque instrument, right? Um, and the sound was unique, I would say.

**Justin:** I'm ready. Whenever— whenever you're ready.

**Sydnee:** Now that we've sort of described the instrument, do you want to go ahead and play a sample of what this sounds like?

**Justin:** Yes. Okay, so, Syd, this is a clip of, um, uh, a guy named Thomas Block playing the glass armonica.

[ethereal music plays]

**Justin:** Wild.

**Sydnee:** It's a cool instrument.

**Justin:** Wait. Hold on.

**Sydnee:** Are you playing more? So it's, like— it's lovely. It's mystical.

**Justin:** It's— yeah. It sounds like you're in a forest and there's fairies all around and they're like—

[music ends]

**Justin:** —"What's up? Welcome to the forest."

**Sydnee:** Kind of ethereal.

**Justin:** "We got a pond over here. You wanna check it out?"

**Sydnee:** Yeah. And it's beautiful. And, um, so he makes this instrument. He's very proud of it. He plays it, by the way. Ben Franklin also played it. Like, he created it and then also became, like, a—

**Justin:** It would be patently wild if he was like, "Looks good. Put it in the closet."  
[wheezes]

**Sydnee:** Well, I mean—

**Justin:** "That's just what I w— that's just what I wanted. Throw it down some stairs!" [laughs]

**Sydnee:** And it would break.

**Justin:** Yeah, exactly! That's why— yeah.

**Sydnee:** It's a cumbersome instrument. Like, as soon as you make it—

**Justin:** Yeah!

**Sydnee:** —you know, like, "Well, this isn't going anywhere."

**Justin:** You're not going on tour with this bad boy.

**Sydnee:** Whatever room you put it in, that's the armonica room from then on, right? Like, that's not— and also the kids can't go in the armonica room.

**Justin:** Uh, yeah. [holding back laughter] This is mommy and daddy's armonica room.

**Sydnee:** It's just for adults.

**Justin:** Just for adults.

**Sydnee:** Private armonica adults.

**Justin:** Like Indian food, it's for adults only.

**Sydnee:** [laughs] You recognize that, like... [laughs] kids like Indian food, too?

**Justin:** I am also referencing something from the ads, which they will not have heard until later. Even though we recorded them first. [laughs] So when you hear that you'll be like, "Whoa. Big reveal. Now it all comes together."

**Sydnee:** "What is he talking about?" We were just referencing the fact that we can't get our kids to eat... so many foods. So many delicious foods.

**Justin:** A lot of foods, yeah.

**Sydnee:** Yeah. We're working on it. Anyway.

**Justin:** We're working on it. We'll get there.

**Sydnee:** The point is, he makes it, he plays it, he— other people are excited, wanna learn this new instrument. And, uh, the first public performance is in 1762 so, like, the next year. So, like, he's on it. He hears this in '61 and he's like, "I gotta get one. I've gotta make it better, and I'm gonna get this lady, Marianne Davies, to play it publicly." Everybody loves it. They're freaked out. It's weird. It's ghostly, beautiful.

**Justin:** So she plays the glass bowl— the glass armonica?

**Sydnee:** Mm-hmm.

**Justin:** She must've been stoked that he invented it. [wheezes] Finally!

**Sydnee:** [laughs]

**Justin:** [laughs]

**Sydnee:** Wait, it must've been weird prior to that when people were like, "What do you do for a living?"

And she was like, "I play the glass armonica?"

And they were like, "The what?"

"Hasn't been invented yet."

**Justin:** "Hasn't been invented yet. I actually have no idea what it is. I'm just pretty sure that that's what I'm gonna— I can do that."

**Sydnee:** [laughs] Somebody— Bill and Ted came back and told me.

**Justin:** [wheeze-laughs] Right! Exactly, that's the only thing that makes sense.

**Sydnee:** [laughs] And then they said "San Dimas high school football rules" and left. I don't know what's happening. Anyway.

And so, like, initially the instrument becomes quite popular. Right? Like, everybody loves this thing. It sounds really cool and over 100 different composers end up composing pieces of music, you know, specifically to be played on the glass armonica. Um, Mozart, Beethoven. People are really excited about it. Remember Franz Mesmer from our mesmerism—

**Justin:** Mesmerize cat, yeah.

**Sydnee:** He becomes a big fan of it. He plays it a lot. And he incorporates in his— like, when he mesmerizes people as part of what he does. He plays this instrument to sort of, like, prep them. Like, and you could see, like, if you're in

this room and, like, it's kind of spooky and this sort of spooky dude is about to, like, put you into a trance, and then he starts playing that...

**Justin:** Creepy.

**Sydnee:** I'd leave. But for some people... [laughs]

**Justin:** Yeah.

**Sydnee:** It would set the mood.

**Justin:** Yeah.

**Sydnee:** Right? Uh, so— and he actually— this is sort of just a weird side fact. He gave lessons to Marie Antoinette.

**Justin:** On the glass armonica?

**Sydnee:** Yeah.

**Justin:** That's wild.

**Sydnee:** So now you know that.

**Justin:** I—

**Sydnee:** [laughs loudly]

**Justin:** If you're a usual *Sawbones* listener, you probably... think that Sydnee has truly lost the plot at this point. Like, what does this have to do with our show?

**Sydnee:** So, this all sounds great. I've told you about this beautiful glass armonica invented by Ben Franklin, creates these amazing otherworldly sounds, and everybody loves it. It's very cumbersome to move. But, like, it's cool. Cool, brand new glass instrument. And that is great. Except it's not, and I'm gonna tell you about the dark side of the glass armonica.

**Justin:** Oh no!

**Sydnee:** After we go to the billing department.



[theme music plays]

[ad break]

**Speaker One:** Did your neighbor back into your car?

**John:** Bring that case to Judge Judy.

**Speaker One:** Think the mailman might be the real father?

**John:** Give that one to Judge Mathis.

**Speaker One:** But... does your mom want you to flush her ashes down the toilet at Disney World when she passes away?

**John:** Now, that's my jurisdiction. Welcome to the court of *Judge John Hodgman*, where the people are rule, the disputes are real, and the stakes are often unusual.

**Speaker Three:** If I got arrested for dumping your ashes in the Jungle Cruise, it would be an honor.

**Speaker Four:** I don't wanna be part of somebody getting a super yacht.

**Speaker Five:** I don't know at what point you want to go into this, but we have had a worm bin before.

**Speaker One:** Available free right now at [Maximumfun.org](http://Maximumfun.org).

**John:** *Judge John Hodgman*. The court of last resort when your wife won't stop pretending to be a cat and knocking the clean laundry over.

[meow]

[ad ends]

[music plays]

**Speaker One:** Hey, kid. Your dad tell you about the time he broke Stephen Dorff's nose at the Kid's Choice Awards?

[audience laughs]

**Speaker Two:** In *Dead Pilots Society*, scripts that were developed by studios and networks but were never produced are given the table reads they deserve.

**Speaker Three:** When I was a kid, I had to spend my Christmas break filming a PSA about Angel Dust! So yeah, bein' a kid sucks sometimes.

[audience laughs]

**Speaker Two:** Presented by Andrew Reich and Ben Blacker. *Dead Pilots Society*, twice a month on Maximumfun.org.

**Speaker Four:** You know, the show you like. That hobo with the scarf who lives in a magic dumpster?

[audience laughs]

**Speaker Five:** *Doctor Who*?

**Speaker Four:** Yeah!

[audience laughs and applauds]

**Justin:** So... we were about to see— this has all been, like, a bunch of laughs and stuff, but now you're gonna tell me that there is actually a downside to this— this instrument.

**Sydnee:** So, here's the weird thing. Obviously, you don't know a lot of people today who play the glass armonica, probably.

**Justin:** Right.

**Sydnee:** I'm sure some people do, but not that many.

**Justin:** Mm-hmm.

**Sydnee:** Not included in most orchestras [laughs quietly] fair to say. Um, howe— so the popularity of it was pretty short lived. Actually, by 1830, nobody's

playing the glass armonica anymore, so that's a pretty quick period of time. 1762, first public performance. By 1830, nobody. Gone. You know, most instruments kind of last longer than that.

**Justin:** Yeah, that was a short— short lived— was it a fad? Would you say it was a fad?

**Sydnee:** Well, part of it was because it— there was no mechanism to make it louder, and it's naturally not a very loud instrument. So it became difficult to incorporate into, like, an orchestra. I mean, imagine that. Like, how do you... how do you amplify it? How do you— you know? It's a very—

**Justin:** They could just use a— they could just used the microphone!

**Sydnee:** Well, no, it's...

**Justin:** Duh!

**Sydnee:** It's the... late 1700's. They couldn't. But they didn't— they didn't have a great way to make it louder, and it was a fairly quiet instrument, and so it was harder to incorporate into things or to fill large auditoriums. Like, in a big auditorium you wouldn't hear this, right? You'd have to be sitting fairly close to hear the performance.

Um, so it didn't— it was kind of— and it was very hard, as we've talked about, to move. Like, to try to take this from place to place on a tour would've been almost impossible. Um, it was very work intensive to build. Certainly there were, like... I think all in all, like, 4000 or so of these things made. So there definitely were ones out there. But, like, it would not be easy to reproduce.

But it was also because it developed— and this is probably why it went away. It developed this really strange and deadly reputation.

**Justin:** Why?

**Sydnee:** Uh, at first it was just sort of, like, as to why— I mean, there are a couple different actual occurrences, documented occurrences that I'm gonna tell you about. But even before things started happening, there was this sort of sense that it was doing something to you. People would listen to it and feel unsettled by it.

**Justin:** Okay. Yes. I think that that's fair. I had that reaction when I heard it.

**Sydnee:** They began to think that, like, if it's making me feel anxious, nervous... you know, a little... I don't even know how to say it. Like...

**Justin:** Unsettled.

**Sydnee:** Unsettled. I guess that's the best way to say it. I don't wanna say disturbed. That feels too intense. That maybe it's having some sort of effect on my health.

**Justin:** Okay.

**Sydnee:** That— that concern began to be voiced, even before we had, like, instances of anything wrong. And many people began to believe that it could cause melancholy, which would've been a diagnosis at the time. Probably depression, you know, is usually what you mean by melancholy. Or just this general— people would say it would cause madness, meaning that it could actually cause some sort of mental illness of some kind.

Um, but around— so there was this sort of sense that something was wrong with it. And then what came of that were some actual incidents that people began to connect to the glass armonica.

**Justin:** Like, in a superstitious sense?

**Sydnee:** Um, I mean, they happened— well, let me tell you.

**Justin:** Okay.

**Sydnee:** Okay. So, the first woman that I mentioned to perform on it, Marianne Davies, she would go on tour with this, which I can't even imagine how that was—

**Justin:** How you would.

**Sydnee:** Yeah, how that was possible. But she would tour with this, with— her sister was a great vocalist, so her sister would sing alongside her playing the

glass armonica. Um, and Marianne Davies eventually had to stop, because she developed severe melancholia later in life.

Now, that could've happened to anyone. It may have had nothing to do with the instrument.

**Justin:** Couldn't been bummed out by having to carry that heavy— heavy thing all over this nation.

**Sydnee:** And every time something broke, and then you gotta find a glass blower and they've gotta make it just right, and that's a whole thing.

Um, there was another player who— see, and this was— so, like, that's a direct connection, right? "Oh, she played it, and then she became depressed. I think the instrument depressed her." Causation, correlation, yada yada, but still.

There was another player who died at a young age from what was known to be pneumonia, but a lot of people felt like it wasn't really pneumonia. It was the armonica. And they thought— they were suspicious of that, because she was young. Now, I would argue that at the time, we're talking the pre-antibiotic era, dying of pneumonia is not strange. Sad, tragic, yes. Not unusual.

Um, but they began to— that— again, that built on this sort of feeling of like, "Uh-oh. Something's up. Look, these two women who were famous armonica players both died."

Well, the other one doesn't die. She developed severe melancholia and had to stop playing, and then this woman dies. Um, people who played it began to— you had these anecdotal reports coming out of, "You know, I played it for a while and I felt really dizzy afterwards."

Or, you know, "I played it and I got really bad cramps."

**Justin:** [laughs]

**Sydnee:** "I played it for a while and I felt extremely nervous afterwards." Or even "I played it for a while and I began to hallucinate."

So you began to see these sort of reports, like, "Yeah, I play the glass armonica, and it makes me feel weird."

Um, and this continues to build on these beliefs. Um, they start to develop some, like— when I say "rules" I don't mean, like, these were hard and fast rules, but some general, like, advice as to when you should play the glass armonica and when it should be avoided. Like, contraindications, so to speak.

**Justin:** Right.

**Sydnee:** Um, so basically if you already have some sort of what they would have called at the time, like, a nervous disorder. Probably meaning anxiety or depression, something like that.

**Justin:** You shouldn't be operating heavy machinery.

**Sydnee:** Don't play the glass armonica. If you are well, if you do not have a nervous or any other disorder, if you're fine, if you're healthy as far as you know, still be careful. [laughs quietly] 'Cause if you play it too much you'll get one, was the thought.

Um, and then if you are playing it and, like, as a— you know, this is sort of a caution. If you start to feel melancholy while playing the glass armonica, either stop immediately or switch to a song that's happier.

**Justin:** A fun one. "Take Me Out to the Ball Game" perhaps? [laughs quietly]

**Sydnee:** [laughs quietly] On the glass armonica. That would be fun. That would be a cheery tune on the glass armonica. That would sound nice. Um, and there were people who wrote about it at the time. There was the, uh, *Treaty of the Effects of Music on the Human Body* by J.M. Roger, which was published in 1803. And he wrote, "Its melancholy tone plunges you into dejection, to the point the strongest man could not hear it for an hour without fainting."

This is, like, a medical commentary. [laughs quietly]

**Justin:** Yeah.

**Sydnee:** Like, if you listen to this music for an hour you'll pass out.

**Justin:** [laughs] That seems, like, easy to prove or disprove.

**Sydnee:** And because it was so much, like— because it was so trendy and new and popular, and so many people wanted to hear these performances because they'd never heard it before, all of these stories spread a lot faster, right? So, like, the stories from the people who played it, doctors started writing about it. They started blaming all kinds of other things on it. Like, other than nervous disorders it can cause domestic squabbles. It can cause a premature birth. It can cause an animal to go into convulsions. It can kill you. [laughs quietly] Maybe.

**Justin:** Maybe. Maybe.

**Sydnee:** We're not sure. But it's possible.

**Justin:** It can burn— it can burn down your room.

**Sydnee:** [laughs quietly] Maybe.

**Justin:** With you inside, maybe.

**Sydnee:** And destroy itself.

**Justin:** Perhaps.

**Sydnee:** We're not sure.

**Justin:** Just to free the ghosts that live inside, maybe.

**Sydnee:** And all of these stories begin to, like, build up, um, and create all this buzz around it. And in that context, there was a performance in Germany. Someone was playing the glass armonica, and during that performance— in the accounts of it, I've read some different accounts of it and it's all sort of unclear. Someone died in the audience during the performance.

Exactly what happened is not— I mean, somebody was like— they just stood up suddenly in the middle of the performance, stared at the glass armonica, and keeled over dead. I don't know. [laughs] I don't know exactly what happened, but somebody died. And the result of that is that it was actually banned in that town. Like, okay. We are banning the glass armonica in this German town. Nobody can play it here anymore.

**Justin:** I remember that Kevin Bacon movie.

**Sydnee:** [laughs]

**Justin:** "[singing] And now we gotta rub bowls! Rub bowls! Put your finger in those holes! Please! Treadle! Play one by The Beatles! Wait! Who's that? It's— [wheezes] band's not around yet!"

**Sydnee:** [laughs]

**Justin:** "[singing] Everybody rub, everybody rub! Everybody rub, everybody rub!"

**Sydnee:** I was just gonna let you keep going.

**Justin:** I know. You had that look on your face. You were just threading me enough rope to hang myself.

**Sydnee:** [laughs] That's exactly what I was doing. So... and people began to ask, like, why is it causing problems? Like, what are our theories? Why do we think an instrument is causing people to die or develop illnesses or—

**Justin:** Why is this glass armonica killing people?

**Sydnee:** Yeah. What is— what's the deal behind it? And the thought at the time was just that the sound was so complex that the brain becomes overstimulated, and then can lead to all of these different things. There were some other, like, more—

**Justin:** Like reading James Joyce.

**Sydnee:** [laughs] Some other, like— well, it's the way I feel when I listen to jazz.

**Justin:** [laughs] Drag 'em.

**Sydnee:** My— my brain feels like it's gonna explode. All those neur— no, I've said this before. All the neurons start firing at once and I feel like I'm... I'm gonna, I don't know, explode or something. I have to turn it off.

**Justin:** I get it. You don't believe my dream of opening a real jazz club.



**Sydnee:** [laughs]

**Justin:** I get it.

**Sydnee:** I just can't... I can't listen to jazz. It makes me anxio— it does! It makes me anxious. So there you go. I guess I understand this. Um, anyway, others thought that maybe these strange tones are summoning the dead. So that was the other flip side of it was this sort of, like, occult belief, that it's not— it's not something that's happening on a physiologic level or, like, a psychological level. It is actually summoning, like, legit spirits, ghosts, demons, dead people, whatever.

**Justin:** Sure.

**Sydnee:** Whatever your belief or spin on it was.

**Justin:** Perfect.

**Sydnee:** And they are coming back, and then they're, you know, giving us illness and murdering us and whatnot, because that's what the sound is capable of doing. There were more claims of people getting sick while playing, while listening. They just began to mount. There was a rumor that maybe somebody, you know, had died of suicide after one of these, after playing it for too long. So, all of these rumors mount. All of this. And finally, it just falls out of favor. Everybody's like, "Forget. We don't wanna play it anymore."

**Justin:** It's not worth it.

**Sydnee:** It's just— yeah. It's too dangerous, it's not worth it, the sound creeps me out. Let's just forget it. And it's also, like, really— I mean, the bowls keep breaking. [laughs quietly] The bowls just keep breaking.

**Justin:** I'm tired of making bowls.

**Sydnee:** So—

**Justin:** We've gone through all my good bowls.

**Sydnee:** So it falls out of favor. Now, Franklin... for him, by the way, if you're interested what were hi— what was his take on this, right? He invented it. He

invented this instrument. He's playing it. He is, like, probably talking about how cool it is, right? That seems like what Franklin would have done. Like, if people asked him he'd be, like, super proud of it and humble brag about it and all this. But, like, he never bought into the hype. He insisted till the day he died, he played the armonica and said there's nothing wrong with this thing. You all are ridiculous.

**Justin:** "You guys are just sad!"

**Sydnee:** "You're just sad."

**Justin:** "You're just sad. Calm down."

**Sydnee:** [laughs quietly] We don't have TV yet, and you're sad. That's all it is.

**Justin:** Someday we'll have TV.

**Sydnee:** Someday we'll have TV, don't worry.

**Justin:** [unintelligible] Just chill out. Watch some *Friends*. It'll be invented soon.

**Sydnee:** [laughs]

**Justin:** You'll see.

**Sydnee:** Bill and Ted told me.

**Justin:** Bill and Ted told me that I'd play glass armonica and I'd chill out with some *Friends*.

**Sydnee:** Anyway, so, uh, Franklin played it his whole life. Never had any problems. In case you're— there's your N of 1 that was totally fine—

**Justin:** Except for the gout!

**Sydnee:** Well, I... now, there you go. He did have gout. Was it the glass armonica?

**Justin:** You tell me.

**Sydnee:** So, like I said, there's actually about 5000 were built. I said 4000. It was actually about 5000. If you— there are still a few that exist today. As you can imagine, many were broken over time, because they were fragile instruments. Um, and you can go look at them in different museums. There was, like, the Franklin family, like, donated one after a while to a museum, 'cause they were like, "Listen. Our kids keep trying to break the bowls with spoons."

**Justin:** [laughs]

**Sydnee:** "And it's too dangerous to keep it in the house so, like, could you take it and keep it safe so everybody can see this great thing that Uncle Ben—" or Great Uncle Ben, or Grandpa Ben or whatever he was to them did. I don't know. I don't know which members of the Franklin family it was. But anyway.

So, like, you can go look at them still. The original ones, made by Franklin. Um, and you can— and, like, interest has cropped up through the years. Like, you've seen Renaissances of this. Like, in the 1930's it came to brief popularity again where some people were trying to play it and build new ones and that kind of thing and, like, make the instrument a little easier to transport and all that kind of stuff.

And, um, there was another— in the 80's. In the 80's it came back again. Like, there were some pieces written on glass armonica. There was some interest in bringing it back. And it's certainly still around. Like, there's still people playing it. There is still music that incorporates it. Not in a huge extent, but it's still out there, for sure.

Um, it was used in *Star Trek II: The Wrath of Khan*.

**Justin:** Hmm.

**Sydnee:** For Spock's theme.

**Justin:** Yeah.

**Sydnee:** Along with the pan flute.

**Justin:** Classic James Horner score.

**Sydnee:** Yeah. I didn't know that song, but I knew you would.

**Justin:** Yeah.

**Sydnee:** It's certainly been used. Uh, some have theorized, like, what was happening. What was the deal with this thing. They've thought about, like, was it lead in the glass? That's a popular theory. Like, well, it was because they would use leaded glass back in Franklin's day, and so people were getting lead poisoning from rubbing their fingers along these glass bowls. And that's why the people who played the glass armonica were typically the ones who became sick. Now, two problems with that theory. One, what about the people in the audience?

**Justin:** Well, they weren't rubbing the bowls. Oh, I get what you're saying, yeah.

**Sydnee:** So, like, why were they getting sick?

**Justin:** Okay, yeah.

**Sydnee:** Why was it affecting people in the audience if that was the case, if it was lead in the glass?

Um, and the other thing is, not— so, certainly I would not advise, like, tell you what, go find some leaded glass and rub your hands on it as much as possible and let's see how much lead you get in your system. [laughs quietly] Um, but you're not going to transfer a ton of lead into, like, you know, transdermally through the skin by rubbing glass bowls. Like, you're not gonna get a huge dose of lead that way. It's hard to imagine that somebody could have actually been poisoned by lead in this manner.

Um, on top of the fact that at this time period, like, in the late 1700's, lead was everywhere. People were constantly getting exposed to lead. Like, lots of people had low— low-level lead poisoning going on anyway. Um, and if you weren't accidentally being exposed to lead in your day-to-day, lead was in a lot of medicines at the time, so your doctor might be prescribing you something that contained lead. So the idea that these bowls would have been enough exposure when everybody was already getting expo— you know what I mean? Like, this wasn't enough. This was a drop in the lead bucket, basically. So it probably has nothing to do with lead in the glass. Which takes us back to what was happening.

**Justin:** It's the brown note.

**Sydnee:** I mean... [laughs quietly]

**Justin:** It's like the brown note for depression. You know, there's like a certain frequency you can play that makes you poop your pants?

**Sydnee:** Mm-hmm.

**Justin:** This is like that, but it's like a certain combination of notes on this glass— this glass armonica. And it makes you... go wild, and— and get sad, or whatever, you know, effect it has on you. It hits everybody different.

**Sydnee:** It'd be really interesting to do a study and see, like, with neurons firing, look at patterns in brain activity while listening to this instrument and see if there is something about this collection of sounds repeated over and over again that has some sort of effect.

**Justin:** That would be really interesting Syd.

**Sydnee:** I don't— I—

**Justin:** I think everybody would be interested in that.

**Sydnee:** [laughs]

**Justin:** What an intere— oh, my job? It's actually very interesting. I, um, have this old instrument that barely exists and I rub it to see if it makes people— [wheezes] makes people insane, and then I try to figure out why. It's very interesting.

**Sydnee:** I'm just saying. [laughs]

**Justin:** I'm— I'm—

**Sydnee:** I'm just saying, I think, uh... it's weird that that just ha— I mean, like, it just— all these stories mounted and then it just went away! And it's never really regained the popularity it could've had. I mean, I don't know if part of it is just it was a very impractical instrument. I mean, gla— and there's still— it's not the only glass instrument. There are other crystallophones. So, like, this isn't the only thing that would be difficult to transport and you had to be careful with. I mean, all instruments are fragile in a sense, you know?

**Justin:** Mm-hmm.

**Sydnee:** I mean—

**Justin:** Mm-hmm.

**Sydnee:** —you can break a guitar.

**Justin:** You can break anything.

**Sydnee:** [laughs quietly]

**Justin:** [wheezes] That's a great point.

**Sydnee:** [laughs] I just mean, I don't know why this instrument— it's a mystery! I don't—

**Justin:** I don't know why you don't do more episodes that veer outside of medical science, Sydnee, because your understanding of a lot of this stuff is very impressive.

**Sydnee:** [laughs breathlessly] I just mean— I don't know— to this day I— it's a mystery. Why did this instrument— why did it— is it just that it sounds a little creepy? Is it just that simple? Like, that the—

**Justin:** What do you mean?

**Sydnee:** The sounds— even if you're playing a happier song on it, it has that sort of, like, echoey, mystical sound to it—

**Justin:** [crosstalk]

**Sydnee:** —that makes you feel a little... out of this world. And so, I don't know. Maybe— maybe it's just that simple. But, um... but that's the— that's the story of the glass armonica.

**Justin:** Thanks so much for listening to our podcast. We hope you've enjoyed yourself and you weren't, um, driven to depravity by that brief clip that you heard

of the instrument. Would should have warned people. Like, "Listen. This is kind of like *The Ring*, except probably made up."

**Sydnee:** I head— as I was listening to different— somebody was playing, um, the *Harry Potter* thing on it, the Hagrid's— er, not Hagrid's. Um... Hed—

**Justin:** [sings "Hedwig's Theme"]

**Sydnee:** —He— Hedwig's.

**Justin:** Hedwig?

**Sydnee:** The owl.

**Justin:** Ah— yes, gotcha.

**Sydnee:** I think it's called, like, "Hedwig's Theme" or some— anyway. Yeah, it's that. That— anyway. I wonder if it's played on the glass armonica, 'cause it sounded right to me. It sounded like the way it sounded in the movie.

**Justin:** I actually don't really like *Harry Potter* as much anymore, Syd. I don't know if you've heard, but the creator of the franchise—

**Sydnee:** Yeah, I know.

**Justin:** —has some problematic takes on people. I'm really surprised that you still love it so much.

**Sydnee:** Oh my gosh, no I don't! No! I— I saw the movies a long time ago, back before we knew.

**Justin:** Yeah.

**Sydnee:** I'm sorry about. [laughs]

**Justin:** Thank you so—[laughs] thank you so much for listening.

**Sydnee:** Bill and Ted, go tell past me so I don't watch *Harry Potter*!

**Justin:** [laughs loudly] Go warn everybody!

**Sydnee:** Bill and Ted! If you're listening, go warn everybody! [laughs]

**Justin:** If you could a quick stop off, uh, at the Pangolin store and just tell people to not eat 'em, that would be great.

**Sydnee:** Actually, Bill and Ted, there's a lot of stuff! [laughs]

**Justin:** There's a lot of stuff, Bill. Now that I think about it, Ted... um, thank you so much for listening to our podcast. We hope you enjoyed yourself. Uh, this is hugely exciting. If you go to [mcelroymerch.com](http://mcelroymerch.com), you'll find a pin of the month that— for February. You can only buy it February. And the pin is called Bookstore Trouble. And it's a stack of books. And this is a pin you will only enjoy if you listened to our episode about [quietly] the need to poop in bookstores.

**Sydnee:** Mariko Aoki.

**Justin:** Mariko Aoki, yes.

**Sydnee:** Mm-hmm.

**Justin:** Yes. Yes. Mispronounced that on the episode.

**Sydnee:** I just fixed it.

**Justin:** Thank you.

**Sydnee:** That's why I was saying it right.

**Justin:** Um, the proceeds for that pin— all proceeds go to the National Black Women's Justice Institute. There is also, uh, another— we have a "I'm Not Ashamed of My Clown Husband" bumper sticker.

**Sydnee:** I'm still not.

**Justin:** And a portion of the proceeds from that will go towards the Huntington Children's Museum, which is a children's museum and I and some other folks are trying to get going. So it's a very funny bumper sticker, uh, designed by Jacob Bailey. You can go check that totally out. That will do it for us.



Oh, thanks to The Taxpayers for the use of their song "Medicines" as the intro and outro of our program! That URL, again, to buy those things, mcelroymerch.com. The pin of the month is just this month. Uh, the bumper sticker will be there, you know, while supplies last. But that's gonna do it for us. Until next time, my name is Justin McElroy.

**Sydnee:** I'm Sydnee McElroy.

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

[theme music plays]

[chord]

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