Sawbones 355: The Great Smog

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Into (Clint McElroy): 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'm your cohost, Justin McElroy.

Sydnee: And I'm Sydnee McElroy.

Justin: Well, tis the season, by which I mean, uh, 12 to 18-month period where watching TV is really important.

Sydnee: [laughs]

Justin: It's really a keystone of our cultural development as a people.

Sydnee: I like— Justin and I tend to continue this trend of watching a program long after everyone else has already either watched the entire thing, or at least a good portion of it, and asserted multiple times that it is an excellent show. We just kind of sit back and wait until finally—

Justin: We're late adopters. We want to hear the show's wrapping up.

Sydnee: We are. [laughs]

Justin: We wanna hear it all worked out okay.

Sydnee: Is that something to brag about? "I'm a late adopter."

Justin: I'm a late adopted with TV. I wanna know how it all shakes out. Schitt's Creek, didn't pick it up until after the show was over.

Sydnee: But then we loved it.

Justin: but then we loved it. And there's other shows, uh, like that.

Sydnee: Like The Crown.

Justin: Like The Crown. We're late to The Crown.

Sydnee: That's where were getting— that's where we're going. So, we are late to The Crown. We're still early—

Justin: And it's only because in our defense—

Sydnee: In the episodes.

Justin: In our defense, it looks extremely boring. I mean, in our defense, it looked like a boring show for boring people.

Sydnee: No— don't say that. Everybody liked it.

Justin: Yeah, everybody liked it, but also, as an outside observer, it looked extremely boring, didn't it? It's just a— you see the pictures. There's not one where Queen Elizabeth is, like, holding a sword or… you know what I mean.

Sydnee: Well, I— I don't know that that would make it more exciting for me. But I think I kinda thought, "Well, I already watched Downton Abbey, so… "

Justin: It's like that except you know how it ends. Except in our case, you definitely don't. And that is germane—

Sydnee: We don't know anything about the history of the British monarchy. Nothing.

Justin: Y'all, it's bad. We quiz each other sometimes like, "Quick quiz, Syd, how many kids do they have?" and Sydnee's like, "Um… well, Charles and… there's a little girl on screen I guess?" I'm like, "Six! Four! Five! However many kids."

We didn't know Prince Philip— I didn't know Price Philip was married to the queen! It seems very confu—

Sydnee: Well, I knew that.

Justin: You knew that? I didn't know that! She's married? Good for her!

Sydnee: The titles make things confusing. I— if you are a listener in the UK, then you knew all this.

Justin: You think we're idiots.

Sydnee: Yes. And it's just not— I mean, to be fair, in my history courses that I took, nobody really focused on the history of the British monarchy.

Justin: And I'm just never been smitten with… I don't know. The royal family.

Sydnee: I've never had that thing either. Like… I, of course, because I am a person of a certain age, had an infatuation with the princes William and Harry when I was younger.

Justin: Ah, so handsome.

Sydnee: Um, but I moved past it.

Justin: Mm hmm.

Sydnee: So, I don't know. But we're watching The Crown and it sparked our interest in this episode, which is about The Great Smog. Or fog. But really, smog, of London. I did not know about this—

Justin: A-woo, great smog of London!

Sydnee: I think I've heard the phrase "great fog of London", although everywhere I looked it was "great smog of London", even though they were— anyway, I've heard that phrase and just thought it was cause it's foggy there. I didn't know it was a thing!

Justin: And they look— you look outside, you look at the fog and you think, "Oh, that's great."

Sydnee: It's just really foggy. I didn't know that was an event in history. I didn't know there was a specific time, and I also didn't know the medical implications and I didn't know it was a big, bad thing. I mean, it makes total sense. But I didn't know it until we watched the episode. So, I wanted to dig in deeper.

Again, you may already know all about this, although what I've learned from researching it is this wasn't the topic of tons of books about— like,

detailing events until really recent history, when people started looking to read more about it, learning more about it and went, "Huh. There's not a ton written about it." And luckily, there were still people alive who had actually lived through those events who could talk about it and be interviewed and they could create a history of it. But it wasn't something that was hugely spoken about necessarily.

So, in short, in 1952 the worst air pollution event in the history of the UK happened. And the— I think one of the weird things to keep in mind during this is that people really didn't panic much. I would say in the episode of The Crown we watched, there was some panicking. Even that sounds like a bit of an exaggeration.

Justin: Really?

Sydnee: Yes. I guess in part it was the whole thing, my understanding is that British people are very good at keeping a stiff upper lip.

Justin: Stiff upper lip, I've heard this.

Sydnee: Yes, I have heard this, and perhaps it was that. Perhaps it was that World War II was not that long ago at this point and they had already been—

Justin: They were like, "Whatever."

Sydnee: Through a lot. And so—

Justin: "Takes a lot to shake us."

Sydnee: In addition, there were a lot of fogs in London. A lot of fogs, a lot of smogs. This was not necessarily a new—

Justin: And lots of frogs. More than you'd think.

Sydnee: [laughs]

Justin: I don't know. There's probably an average number of frogs.

Sydnee: I don't know. The normal amount of frogs? Despite the fact that around— at the time they knew this— around 4000 people did die from this event.

Justin: Whew, that's a lot of people.

Sydnee: And now— but that's what they knew at the time, and later estimates have suggested that it may be closer to 10-12,000 deaths that could be attributed to this. Not immediately occurring in this short time period, but that occurred as a result of this event.

Justin: What— okay, what happened?

Sydnee: So, first of all, it's important to know that a lot of people in London were burning coal at this time.

Justin: It's the heartbeat of America. As West Virginians, we really can't say enough great stuff about this beautiful black rock. You know, if you squeeze it hard enough and long enough, it turns into a diamond.

Sydnee: Yeah. Now, I'm gonna say on a side note, uh, my relationship with coal, I have lived in West Virginia pretty much all my life, but I did do a science fair project that won based on the dangers of acid mine drainage—

Justin: Here she goes.

Sydnee: —to our environment and what a poor job our coal companies were doing—

Justin: [mock anger] This is the one sticking point.

Sydnee: —in reclaiming this land and how much damage to environment— anyway.

Justin: The only argument ever in our marriage. I'm like—[laughs]

Sydnee: Yeah. Justin, notoriously pro-coal.

Justin: I just have a full-throated love of coal.

Sydnee: No.

Justin: Never hurt anybody!

Sydnee: But I always feel like this is an important anecdote if you wanna understand my relationship with the rest of the world, it's to continuously bother people. [laughs] To create trouble.

Justin: Ever heard of raining on people's parades? Sydnee does it literally.

Sydnee: I literally do it.

Justin: She gets parades cancelled.

Sydnee: Okay, so no shade, we live in West Virginia, but there was a lot of coal burning happening, and there were a lot of energy plants that were located, like, in the city. I mean, like, when you burn fossil fuels I think we all know it creates a lot of smoke and air pollution. I hope everybody knows that. It does, if you didn't know it.

There were like, diesel-powered buses. I guess there had been, like, an electric tram kind of system before that and then that wasn't being used in favor of diesels. There were steam locomotives. All this stuff created pollution. So, there was already pollution and that's not unique to London, right? There's pollution everywhere, most major cities. And even in parts of the world where there isn't a major city, like here, the air is not great quality. So, this is a problem many places.

But in London it was particular bad problem at this moment in history, because it was crowded and there were tons of people burning fossil fuels. Also, because they had actually used a lot of the high-quality coal to pay off war debts from World War II, the coal that was being burned was a particularly, I guess, like, bad kind of coal that had high sulfur content. This added to the deadly pollution that was in the air.

Justin: Now, I've never heard of such a thing as bad coal, but I will take your word for it.

Sydnee: [laughs]

Justin: I learn something new every day.

Sydnee: We don't have that here in West Virginia! [laughs]

Justin: We have that good stuff.

Sydnee: And the weather had been colder than usual, so everybody was burning more coal than usual, because it had been so cold. All this pollution already made for smog, and they would have what they called "pea soupers", which they said that in the episode. "It's a real pea souper

today," I believe. And it was called a pea souper because in the air, along with the sulfur dioxide that was filling the air, and the carbon dioxide and the other pollutants, there was like tar, tarry substances from like, the automobile pollution, everything in the air, and so it would give, like, the smog a blackish, yellowish kind of appearance. Bet it smelled awful, by the way.

Justin: Of course.

Sydnee: Can you imagine?

Justin: I can't imagine.

Sydnee: All that sulfur?

Justin: I bet it didn't even smell like pea soup.

Sydnee: So, they would call it pea soup, cause that was the way it kind of looked. Like you were walking through pea soup. Except you're inhaling it into your lungs.

Justin: And not drinking it into your body.

Sydnee: No. I don't even know if pea soup is good, I've never had it.

Justin: Me neither.

Sydnee: But this smog is not good for you. This was bad, but on December 5th of 1952 all of this was made way worse by an anti-cyclone. Did you know— I had to do a lot of meteorological research for this.

Justin: It sounds fake.

Sydnee: No, it's real.

Justin: I assumed it's an old-timey name for a real thing, you know what I mean? Like, they didn't come up with the word hurricane yet, so they called it an anti-cyclone, cause they were like. "I don't know. I don't know what it is!"

Sydnee: You know there are cyclones.

Justin: Mm hmm.

Sydnee: There are also anti-cyclones.

Justin: That does not—

Sydnee: Cyclones are a—

Justin: I just assumed that'd be not having a cyclone. [laughs]

Sydnee: I learned so much— so, I read so much about weather. Cyclones are responsible for like, warm air from the equatorial regions of the planet making it to the poles. Without cyclones, without this, like, revolving, the air patterns and the fronts and the movement of air that these cause, we would have, like, really hot temperatures at the equator and super cold at the poles and that would never change.

Justin: It's so unfair—

Sydnee: You get all these gradients of temperature and changes in temperature because of cyclones.

Justin: I cannot believe you are making me learn about another kind of science on this show.

Sydnee: Anyway. [laughs] A cyclone is a low-pressure system, and it forms when cold and warm bodies of air, fronts, meet. Okay? And then they start to, like, wave and then they turn. And a cyclone turns counter-clockwise in the northern hemisphere and clockwise in the southern. And they can really dramatically change weather patterns as a cyclone moves through an area. Right?

Justin: Mm hmm.

Sydnee: An anti-cyclone is the opposite, as you would imagine. Anti. It is a high-pressure system. It can form in, like, the wake of a cyclone after it's moved through an area. And it turns the opposite direction for each hemisphere. So basically, if a cyclone turns counter-clockwise in the northern hemisphere, and anti-cyclone turns clockwise. And vice-versa for the southern hemisphere.

Justin: Got it.

Sydnee: Um, the winds are slower moving. In the summer, an anti-cyclone can lead to, like, calm weather. Kind of a calm, windless, beautiful summer day. You can imagine.

Justin: Mm hmm.

Sydnee: Could happen in an anti-cyclone. In the winter, it can be very different. Especially if you have an area where it's been colder than usual and so, like, the ground is colder than usual.

Justin: Right. Which we've established, it was cold.

Sydnee: If it is cold enough to reach the dew point then you can have a fog form, right? And then at that point, you've got this layer of cold air, and then fog in some cases, which is trapped under kind of a bubble of warm air on top of it.

Justin: Okay.

Sydnee: Okay? And if you add air pollution to this whole… you know, milieu, then you get smog.

Justin: Okay.

Sydnee: Cause you have cold air, fog, and now smog trapped in an area underneath all this warm air on top. And it is kind of just sitting there. And especially in the center of the anti-cyclone, it's really stagnant. It just, no breeze, no wind. Just sits there. Doesn't move. And because anti-cyclones move so slowly in general, they can just post up somewhere for a matter of days.

Justin: And keep the air gross, basically.

Sydnee: Yes. Um, an anti-cyclone sits over Los Angeles frequently.

Justin: Ah. And they've had a lot of air quality issues.

Sydnee: Smog issues as well, yes. So, I think you can see, if you are familiar with LA, this is the same thing that is happening in London at this point. And an anti-cyclone visits London pretty much every year. Like, this is not a rare occurrence than an anti-cyclone would settle in over the city. That happens, that's just a weather pattern. That's not weird. But at this point, when you have all this pollution and all this coal burning and it

all gets trapped in London underneath this anti-cyclone, that is why you have this event which is rare.

Justin: Okay.

Sydnee: The severity of this event is rare. There's usually not much precipitation, by the way. It's usually like, the warm dry air up top prevents that. So, it's just this stagnant, not-moving air, and it sits there until basically it moves on and the weather gets better, right?

So, one of these anti-cyclones plops down on London December 5th of 1952. And then we get the great smog trapped there. And everyone inside the city, everybody in this anti-cyclone just has to breathe in the pollution until it shifts, basically, at that point.

Justin: Yeah, nothing to be done.

Sydnee: Yeah. I mean, and they say that— it's funny, in the episode they talk about how like, you can't, what are you gonna do? It's the weather. You can't fix the weather. There were lots of things they could have done ahead of time. But once it's there, I would say, yeah. I mean, you could stop creating more pollution.

Justin: Big fans… yeah.

Sydnee: Um, cause you see people still, like, burning coal and driving the buses and all this stuff, and that's just more. I mean, you're just adding to it because that's not gonna go anywhere, it's not gonna dissipate. It was so thick you essentially felt like you couldn't see at all. I mean, like, you couldn't see your feet in front of you as you walked. People who talk about the time period talk about how you had to shuffle around.

Justin: So you didn't, like, walk into something?

Sydnee: Cause you couldn't see curbs, you couldn't see fire hydrants, you couldn't see lamp posts, you couldn't see people. You couldn't see anything. The lights in the city were all incandescent bulbs, and those don't penetrate fog or smog. So, they didn't have the big fluorescent, like, fog-penetrating lights. So, like, you couldn't see anything.

Justin: It was getting dark super early, right? They said in the episode that it would get dark at like, 2pm or something.

Sydnee: Yeah, well, cause it was just— I mean, you were just trapped in this thick… I mean, I can't even imagine. People who— if you look at pictures of the time— and everybody by the way, I think this is interesting, the way that the city told people to deal with it, other than a lot of stuff got shut down —even like, the smog creeped into, like, in buildings and stuff. There were like, shows that were cancelled and things because the theatre would be full of smog. Like, it got inside.

Justin: Now, all the rock concerts, like if they had Styrper playing or something like that, that just made it more awesome. Like, you don't gotta worry about old-timey fog machines. It was like in-built, basically.

Sydnee: Sure, sure.

Justin: You got a rad show.

Sydnee: Except you're just coughing the whole time.

Justin: Yeah.

Sydnee: People were— I think this is interesting, people were told—

Justin: God, you know what? Can I— brief diversion. I was trying to do a pull on a hard rock band and I came up with Stryper, which is basically the only Christian heavy metal band, and someone will— thinks that they're roasting me for it in their head, so I wanna beat you to the punch. It is extremely lame and I'm sorry. Go Stryper.

Sydnee: [laughs]

Justin: Stryper rules.

Sydnee: Uh, I'm not familiar with their work.

Justin: It's with a Y. So that's probably the confusion. [laughs]

Sydnee: One thing I wanna say that I think is interesting in comparing this to where we are in the world today—

Justin: Can I— wait. Briefly, can I just sow you a picture of Stryper?

Sydnee: Oh wow.

Justin: [laughs]

Sydnee: That's a look. That's quite yellow and black.

Justin: [laughs] You may know their album "To Hell with the Devil". Okay, sorry.

Sydnee: Anyway. The thing that I think is interesting is that one thing the government did tell you to do to cope with it is wear a mask. And so, you'll see pictures— you can find pictures of people in London at this time where they're like, wearing masks or scarves or bandanas around their face, which looks very appropriate now. It seems very— it actually did not work for that.

Justin: Ah.

Sydnee: As much as masks are helpful in our current world event, in this world event the masks probably weren't doing anything. It was too late. But they didn't have anything else to tell people to do, so they told them to do that. Now, as you can imagine, there were health effects. And I'm gonna tell you about the health effects right after we go to the billing department.

Justin: Let's go!

[ad break]

[Maximum Fun ad plays]

Justin: Alright Syd, so I've been promised some discussion of health effects.

Sydnee: Okay. So—

Justin: Not that I haven't loved the meteorology. Cause like, that's what we come to Sawbones for but… it's not why we're here.

Sydnee: Well, I think it's interesting to understand why this happened.

Justin: Mm, yeah.

Sydnee: And why, like, this is kind of a perfect storm, so to speak.

Justin: Syd— if you don't— if you do— if you do say so.

Sydnee: Well, not really a storm. But you know what I mean. So, okay, the hospitals were definitely strapped by this, right? They had to be, I mean, everybody's inhaling toxic air pollutants constantly. There were definitely people dying. But what's weird is that there wasn't— like I said, there was no panic. In the episode we watched, they sort of depicted like, a lot of running and screaming. There really wasn't a lot of that.

I'm sure that there were people that were very upset and scared, especially people who were losing loved ones, but like, there wasn't like a central database to keep track of how many people were dying. So like, one hospital didn't necessarily know what another hospital was going through. There weren't, um, big headlines about the death toll. There were headlines that there was a smog, but like, nobody was saying, "And also, the hospitals are filling up and people are dying."

A lot of people felt like, "I mean, it's just the smog. Like, that's what happens. This happens all the time. It's a pea souper, it's a really bad one. No big deal." They also kinda felt like this is an act of God, what do we do, you know? This just happens. Some people felt like this is just the price you pay for living in a city. "We live in the busiest city on Earth, and sometimes… "

Justin: You're gonna breathe a little smog. [laughs]

Sydnee: Sometimes you can't see your feet when you're walking because the smog is so thick, and this is just, you know, this is just what happens.

Justin: But you got the best pizza in the world. It's before New York was invented. Really.

Sydnee: [laughs] There's a— it's funny, there's also, at the same time I guess, there was also a serial killer in London that was making headlines.

Justin: Great timing. You wonder though, did they wait until they're like, "Wait a minute, look outside. I've been wanting to serial kill for so long, and I feel like this is the moment." It's sorta like how I got into wood-working because of the pandemic. I bet that serial killer was like, "This is perfect, no one can see anything."

Sydnee: It's really— I found as I was researching this, I stumbled across this book that I have ordered, I haven't read it yet, but it's called Death in the Air by Kate Winkler Dawson, and it is about the kind of overlapping

occurrences of this London smog happening at the same time that there was a serial killer who was strangling people. So like, asphyxiating people who were also being asphyxiated by the—

Justin: Now, are those added to the total? [laughs]

Sydnee: No. [laughs] And both resulted— I'm not gonna get into the serial killer storyline, but like, that also resulted in upheaval of sort of the order and outcry and—

Justin: You spent half of the show on meteorlocigal— meteorolo… meterolog… weather science, and you can't get into the serial killer storyline? Come on, Syd. [laughs]

Sydnee: I guess there was a thought that as an offshoot of this, someone was thought to have maybe been falsely accused, although maybe they weren't, it's not really clear, and who was actually put to death for this. And then the other guy confessed later, and so then there was this public outcry about the death penalty as a result.

Justin: I'm sure there's—

Sydnee: So, like, there's this whole other tangent that you could go off on. I don't know.

Justin: I'm sure there's a My Favorite Murder episode about it.

Sydnee: Yes.

Justin: Check it out.

Sydnee: But all of this stuff was happening and so there weren't a lot of people, like, demanding that the government do something or like, saying like, "Maybe we should get on this air quality thing, maybe there's a problem with the air quality."

The causes of death were largely, as you may imagine, respiratory issues. The very young, the very old and those with underlying lung disease were the most at risk. A lot of infection in the lungs resulted from like, the inflammation from inhaling all this stuff and so, people were dying of— at the time they would say, like, they had pneumonia, they had bronchopneumonia, they had, um, all these different names that they had

for inflammation and then infection in the lungs. They would say their lungs were filed with pus. They had pneumonia.

There were a lot of deaths that followed the days after the smog would eventually dissipate that they tried to blame on, like, influenza. They were like, "Well, it's flu season. It's probably just flu." But that was probably— in retrospect, that was likely not the case.

Justin: Probably wasn't helping.

Sydnee: [laughs] Well, there was flu, but that was probably not what this was. One component of the pollution, I said, was sulfur dioxide. And you inhale sulfur dioxide like, any time you snuff out a match. Right? And a little bit of it is not necessarily dangerous, like when you snuff out a match. And you smell it, by the way, long before it reaches— like, the level it needs to be in the air for you to smell is way, way, ay lower than the level it needs to be to harm you. Which is why you—

Justin: Smelling it is not necessarily equated with it being dangerous.

Sydnee: Exactly. But that was one big component, because of things like coal being burned, and when you inhale sulfur dioxide it interacts with any kind of moisture, so all of your mucus membranes, the ones that line your respiratory tract inside your mouth, inside your nose, all that area is wet, right? There's moisture there. And that forms sulfurous acid. And this is an irritant. This is not good. You don't want that in your airways. Um, it also because it's an irritant, will cause your airways to react, to constrict, right? To tighten, to get smaller. In people with asthma, a much smaller amount of this can do this.

Justin: Mm, okay.

Sydnee: With enough of it, even if you don't have any respiratory problems it can cause your airway to constrict.

Justin: But basically, the worse your lungs already are, the harder this is gonna be on you.

Sydnee: Exactly. And the more you're exposed to, the more likely you are to essentially asphyxiate eventually. In enough concentration in a poorly ventilated enclosed area, as some people may have been living in, or just being outside in this.

It can irritate your skin, it can irritate your eyes, it can cause nausea and vomiting, all of these things were probably happening. The respiratory irritation symptoms will start with like, sneezing, sore throat, wheezing, shortness of breath, your chest will feel tight, you'll feel like you're suffocating.

But eventually, they'll go on to, like I said, tightening of the airways, like bronchospasm, pneumonitis, which is inflammation of the lungs, fluid accumulating in the lungs, like pulmonary edema. And you can get, you know, all of these things can lead to, obviously, you dying of these acute lung conditions, and all this inflammation in your lung leaves you open for infection, which you could, at the time, have also very easily have died from. When we were just starting to introduce antibiotics into the world and not regularly use them for these types of things.

Long-term exposure to this kind of thing, which you have to imagine was happening, even outside of this event, can cause an increased susceptibility to infections, so you're more likely to get future lung problems because you've been breathing this in, chronic bronchitis, you can lose your sense of smell.

Justin: Yeah. So how would you even know this— good thing it's pea soup colored. As least you've got that.

Sydnee: And of course, all this stuff would have been worse for children, especially— maybe not in the acute sense, but if you're talking about long-term outside of just this one meteorological, air pollution, ecological event, kids were breathing this stuff in all the time.

Justin: Yeah.

Sydnee: Not just in London, but anywhere where they were burning a lot of fossil fuels in closely, like, densely populated areas. What's interesting is, so the smog would lift, right, on the 9th, I believe. But even after it lifted and the weather cleared and people would see and they went back to their lives, there still wasn't a big outcry. There still wasn't a big panic.

It would be seven months for the government to actually do an official inquiry into the event to see, like, "Did we do something that maybe caused this? Or maybe was there something we could have done that would've prevented it?" And it was finally then, that wasn't really a panic,

but it was the realization of reports that would come out in 1953 and, you know, in the years to follow, about air quality and the dangers of burning fossil fuels and things like the great smog. All of that would lead to essentially the first clean air act anywhere was passed in the UK in 1956. And it was indirectly, directly, I mean, as a result of this one terrible event of air pollution.

Justin: I imagine once you have clean air sort of taken away from you that forcefully, you become a lot more cognizant of the importance of safeguarding it.

Sydnee: Well I think— but I think it took a while for it to seep into the understanding of, like, the lay public, because so many were under the impression that this is just what weather is. Sometimes weather is toxic. And it's not something that we can really control. Because the alternative is, what, do we all just not heat our homes? Like, you just be cold? We can't do that, like, that's dangerous, and so I guess this is the price we pay.

Um, what should be shocking, but I would guess perhaps isn't shocking, is that they knew this was gonna happen. There were leaders in government who saw this coming from miles away because they understood the dangers. I mean, we understood the dangers of burning fossil fuels, and the substances that were being created in the air, and air pollution and breathing that in both chronically and in the acute incident. We understood that already, even at this point in history. Maybe we didn't know the extent of it, and certainly a lot of people outside the scientific community didn't understand the implications very well. But there was definitely at least one thing that should have alarmed them, which was something very similar that happened in Donora, Pennsylvania, in the United States, in 1948. So—

Justin: Just a few years before.

Sydnee: Yes. So, just a few years before this, there is a small farming town, it's 30 miles south of Pittsburgh, and it really grew when at first Carnegie Steel built a plant there in 1902, the railroad moved in, there was a zinc works there in 1915, and it should be noted that very shortly after all of these big companies, all these big industries moved into the area and started doing their work and creating air pollution, that people in the area started complaining about the air pollution.

That didn't take very long for them to start filing complaints and for the industries involved to start paying fines for air pollution, right? Because right, that's how it's often dealt with. "Well, if you pollute this much, you've gotta pay a fine." And so, they pollute that much and pay a fine. And then keep on polluting, because the industries are incredibly lucrative, so they can afford the fines. Which is what was happening.

And so, they continued to do the, you know, release all these pollutants into the air, until finally, October of 1948, when just like we've described happened with the great smog of London, a great smog, largely containing the kinds of materials that were being put into the air from the steel factory and from the zinc plant specifically, descended on the town.

People got very sick, initially 20 people died in the acute event, which again, was just a few days in this one year in October. But they found that after it was all over and they sent in investigators to look at the extent of the problem, to really pay attention to it finally, since they'd been crying out for help for a while, they found that 5,000 of the 14,000 locals had had some kind of symptoms, ranging from moderate to severe. And when they, um, looked at their lungs, they took x-rays of their lungs, they said they looked like "survivors of poison gas warfare."

Justin: [draws in breath]

Sydnee: Because they were inhaling, you know, heavy metals and all kinds of particulate and air pollution and everything from a very similar event. And so, this was known and documented and written about on a federal level, and I'm certain that there were scientists in the UK who were aware of this when this was happening. And I think there was a push within, as far as I can tell, within government, to address it prior to the great smog of London and then immediately after. It just took a while.

Justin: Sure

Sydnee: For everybody to get on board.

Justin: You got a lot of moving pieces.

Sydnee: And to own the culpability that the government had in this.

Justin: Yeah, it's very easy to try to— especially when it's something that big, I feel like we have a tendency as a species to say like, "I don't

know, it's weather. What are we gonna do? You know, it's just the price of doing business."

Sydnee: Mm hmm. And it's a tough thing to, um, just to say, like, it continues to be a big problem. Not like this. Obviously, these events that occurred— there was another great smog that would occur in London in the early 60s, I believe it was 62. 61 or 62. The last one of these events did occur. But it was not to this extent, it was not as severe. And since then, we haven't had these kinds of, like, isolated ecological disasters identical to this. Obviously, we've had many other—[laughs]

Justin: Oh yeah. Yeah, yeah, yeah.

Sydnee: —isolated ecological disasters.

Justin: There's tons of those.

Sydnee: But not exactly like this. Since then— because they did start to do things, the clean air act in London, or in the UK, really did revolutionize the way that they, you know, heated people's homes and tried to control air quality. And there've been a lot of strides made since then.

Now, I think we all know, not enough has been done, and a lot of these big companies, these big industries are still immune from a lot of regulation because money and law being power and they can pay the fines. I think the other thing that's really interesting, the last little wrinkle to all this that's really interesting is that in Donora what they found too is that as much as the people who lived there were furious that their air had become so low quality and that they were all suffering because of it and that people died acutely and who knows how many more died later as a result of this, they were also employed by these industries. You know, when a steel plant moves into a town, jobs.

Justin: Yeah.

Sydnee: For people who maybe didn't have one before. Good paying jobs. And so, you had people who at the same time wanted the federal government to do something about these industries, were actually, and this is literally, chasing federal investigators out of the town with guns to prevent them from figuring out what happened, because they didn't want the plant shut down.

Justin: Yeah.

Sydnee: So, it's a—

Justin: If you live in West Virginia, it's a story you've seen repeated many times over, where outside powers come in, strip the natural resources, put the people to work, and people are so desperate for work that they'll pretty much accept anything, no matter how their home is being, sort of, destroyed in the process.

Sydnee: It's very much, it is exactly like here. And it's interesting when you think about the relationship we have with coal in West Virginia.

Because not only does the industry employ people, but they're also good paying jobs with benefits and things that are really hard to come by in economically distressed areas. So, it's this idea with industry that if you pay people enough you can subject them to these harmful, dangerous work and living environments, because it harms the whole community. And I don't think— I mean, I think it is not a stretch to say we have certainly not solved this problem yet.

Because we're still burning fossil fuels and we're still polluting the air. Not maybe in this way, and maybe we've learned a lot and we've taken a lot of measures to improve things, but I think we all know there's a lot more work to be done before this become commonplace. That you just accept that the price you pay for living, maybe not in London but on planet Earth, is that you inhale deadly pollutants into your lungs on a regular basis.

Justin: … Well, on that cheery note, we're gonna wrap up this episode of Sawbones.

Sydnee: [laughs]

Justin: Another fun one in the books from Ms. Positivity herself.

Sydnee: I'm sorry—

Justin: Sorry, excuse me, Dr. Positivity, Sydnee Smirl McElroy.

Sydnee: I'm hoping The Crown gets lighter after this. Does it?

Justin: [laughs] It would almost have to.

Sydnee: What happens next? I don't know and I'm afraid to read any history because I'll ruin the show for myself.

Justin: I just hope Queen Elizabeth lives.

Sydnee: Well—[laughs]

Justin: Thanks so much for listening to our podcast, we hope you've enjoyed yourself, as much as you could. We have a book, if you want more of the feeling that you're experiencing right now. Head on over to the bookstore of your choice and pick up the Sawbones paperback. It's got new stuff dealing with, like, quarantine and things like that, and some new illustrations from Sydnee's sibling Teylor. And we're super duper proud of it.

Also, if you wanna learn how to podcast or know someone who does, my brothers and I just released, with contributions from Sydnee, and—

Sydnee: I wrote some, too.

Justin: She wrote some, too. It's called Everybody Has A Podcast (Except You), it just came out last Tuesday. If you wanna grab it we would sure appreciate it, because we're really proud of it. We worked on it for a long time and think it's got a lot of good stuff in there.

Sydnee: I sure hope, you know, Matt Smith is playing Prince Philip, and I sure hope he doesn't turn out to do anything questionable or problematic, because boy, I sure love Matt Smith and I would hate to see that played out. [laughs]

Justin: Listen, I'm gonna say it right here on this show. We love that Prince Philip and everything he's ever done or said.

Sydnee: No! Don't say that! That's not true!

Justin: Hun, we've watched four episodes now. I'm sure this lovable rapscallion will never have a heel turn.

Sydnee: Listen, I've maybe Wikipedia'd some things. That's not the case.

Justin: That's cheating! Spoilers. Okay, thanks for listening, thanks to The Taxpayers for the use of their song "Medicines" as the intro and outro

of our program, thanks to you for listening! And that's gonna do it for us for this week. So, 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]

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