Sawbones 593: Dolphins and LSD

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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!

["Medicines" by The Taxpayers plays]

Justin: Hello, everybody! Welcome to Sawbones! A marital tour of misguided medicine. I'm your co-host, Justin McElroy.

Sydnee: And I'm Sydnee McElroy.

Justin: I didn't get a drink. You know—

Sydnee: Yeah, I didn't either. We're going to have—we're going to have…

Justin: Dry ep—

Sydnee: Rough…

Justin: Dry—

Sydnee: Rough voi—

Justin: Episode.

Sydnee: And my voice is already rough. I'm really worried that I'm getting…. I'm getting some—that I'm coming down with something.

Justin: Oh my god. You said that, but like right before we started recording, I got that like… you know how sometimes you have a feeling in your throat that isn't like sick, but it's like pre-sick? You're like, whoa… Is that the feeling of sickness coming?

Sydnee: And this isn't a bit. I know it feels like since this is a medical history podcast, that we're about—like it's a lead in. It's like, ha-ha, joke, that's a—no…

Justin: Sorry, my things are all…

Sydnee: All of my patients this past week, well, not all of them, but quite a few of them have had upper respiratory situations.

Justin: Mm-hm.

Sydnee: There's something going around. And I feel like—I feel like I—it's coming. I feel like it's—

Justin: It's nature's way of—

Sydnee: I hope I'm wrong.

Justin: It's nature's way of saying, hey, take a break, friend.

Sydnee: Yeah.

Justin: Take it easy.

Sydnee: I've also had to talk a lot this week, so it could just be that. Maybe that's what it is.

Justin: Yeah.

Sydnee: I'm going to talk more now though.

Justin: Ah, no! But that's good, because—

Sydnee: I know.

Justin: It's for educational purposes.

Sydnee: It's for Sawbones.

Justin: Yeah.

Sydnee: So this week, I got—I had a really interesting topic recommendation from a listener, Samantha. Thank you, Samantha. Samantha said specifically we could mention their name on the show.

Justin: Thank you, Samantha.

Sydnee: Thank you, Samantha. About the—the email was titled "Dolphins and LSD." So, there's a little—let me give you this hint, because I get so many emails, and that's where I get so many topics from. And I also never delete emails. Justin can attest to this.

Justin: Mm-hm.

Sydnee: So sometimes I'll just go scanning back pages and pages and pages. If you email me a subject line like Dolphins and LSD…

Justin: She's going to read it.

Sydnee: I'm probably going to click on it, because what?

Justin: Yeah.

Sydnee: What?

Justin: Scammers have been getting Sydnee for years that way like, "Whoa, I won how much from a Nigerian academy? That sounds incredible."

Sydnee: Can I—listen, can I tell you the place where I work, my healthcare institution sends us fishing emails, like test phishing emails, to see if we'll fall for them.

Justin: She's good at it.

Sydnee: And I am—I have 100% phishing detection rate. I get like a little

like badge, it sends me like a little badge with confetti, like, "Congratulations! You—"

Justin: She has a badge that she shows people, that she flashes at parties and stuff like, "Check it out. In case anything goes down, I'm ready."

Sydnee: I'm ready. I know if it's a phishing email.

Justin: Mm-hm.

Sydnee: Mm-hm. I'm prepared. This is not about fish, this is about dolphins.

Justin: Oh, yeah. Dolphins are not fish. Sorry, kids. Sorry to break-break your hearts. Not this time.

Sydnee: It's actually not just about dolphins. I want to talk about John C. Lilly. So, the email started off and it—and John C. Lilly was mentioned, but it was more about dolphins and LSD. But then I started researching this guy that I'd never heard of. This was a name I was unfamiliar with. As I start to talk about what he did and what has come from his work, I think, Justin, you're going to recognize some stuff.

Justin: Okay.

Sydnee: But I did not. But it was such a fascinating life story of this doctor, scientist… psychonaut?

Justin: Psychonaut—

Sydnee: You know what a psychonaut is?

Justin: I do. Yeah. But only because there was a very popular couple of video games called Psychonauts, that were like adventure games about people who delved into the… this—the inner psyche—

Sydnee: Consciousness.

Justin: Yeah, yeah.

Sydnee: Yeah. Yeah. Explorers of the consciousness, usually using psychedelic substances—

Justin: Right.

Sydnee: To do so. So, John Lilly did not start off on a track that you would have predicted he would become a psychonaut. He was born in 1915, to a wealthy Catholic family in St. Paul, Minnesota. Wealthy, well-connected. His dad was a banker, his mom came from money. He was—he was born into a situation where he should have been a very—

Justin: Had it all figured out.

Sydnee: Like uptight, straight-laced sort of dude.

Justin: Yeah.

Sydnee: Right? His dad wanted him to be a banker, just like him. His life was laid out for him. He had all the right connections, the trust fund—

Justin: Mm-hm.

Sydnee: All in front of him. That was not what he wanted. Early on, and he writes about this, he wrote a book, The Scientist, which is kind of his autobiography. Thought it's interesting—

Justin: The Scientist?

Sydnee: Yes.

Justin: Oh, boy!

Sydnee: It was his—

Justin: Big swing.

Sydnee: Metaphysical autobiography. And so a lot of what I'm pulling from comes from his own account. Now I will say, as far—and I haven't read the book, but from the excerpts that I've read, it sounds like he wrote about himself in third person, which is also kind of cool. I like that. So at 13, he became very interested in science. He remembers like making his own laboratory in the basement and collecting chemicals, and dumping stuff together to try to figure out what would come from it. He was given, even throughout his early years of schooling, they would give him extra time in the school lab. He went to—he went to early Catholic schooling, and they would let him spend time doing his little science experiments—

Justin: Oh, cool.

Sydnee: In the lab. Yeah. They used to call him Einstein Junior, even as a kid.

Justin: Would have been a better name for the autobiography, to be honest.

Sydnee: Than The Scientist.

Justin: Yeah. Einstein Junior? That would be—that would be sick. The Justin McElroy story. That would be actually a good title for anybody's autobiography.

Sydnee: Yeah.

Justin: Einstein Junior.

Sydnee: And I don't think there's a Coldplay song called that.

Justin: [chuckles] That's true.

Sydnee: [titters] That I know. I don't know all of Coldplay's—

Justin: One of the big advantages of a… of that title is it's not a Coldplay song. That's something in publishing you're always looking for.

Sydnee: He does talk about, when he was 13, there was one experiment that did not go well. So, you remember how we would try, or maybe you never tried, but a lot of people would drop Mentos into a soda.

Justin: Sure, yeah.

Sydnee: A bottle of soda.

Justin: Yeah.

Sydnee: Just watch it erupt like a volcano. So he sort of did that, except instead what he did is he took a bottle, a Coke bottle. It did not have Coke in it. It had sulfur, sodium, chlorate and charcoal, and then he dropped a match into it.

Justin: Wow.

Sydnee: Which is a different kind of thing, which resulted in an injury to his brother. So, he was very—like from an early age, he was willing to push the boundaries of acceptable science. This is going to become a theme.

Justin: Okay.

Sydnee: A series of events will move him towards medicine. Initially, he's more interested in physics. He spent a lot of time studying physics and chemistry. He decided—his dad very much wanted him to go to Harvard, had all the connections to get him into an Ivy League institution. Wanted him to go into finance, become a banker. He didn't want that. He ended up going to Caltech instead.

Justin: He's the scientist.

Sydnee: He is the scientist. And while he was there, he was initially studying physics. He started moving into neurophysiology, because he read Aldous Huxley's Brave New World.

Justin: Ah? Okay.

Sydnee: And he was fascinated by, what could the brain do? Well, the idea of a chemical that you could put into the brain to make it do other things, you know.

Justin: Such a fascinating relationship between science and science fiction, how the two kind of inspire each other. I mean the classic example is like Star Trek, you know the flip phones used to be very common. That design was inspired by the tricorder from Star Trek because people like that idea of flipping it out and like talking into it. So the design was sourced from the sci-fi. It's a—it's an interesting virtuous circle too, a lot of sci-fi is derived from new discoveries in science, then you know, a whole new wave of sci-fi. So it's interesting how those two feed each other.

Sydnee: I know. And now, of course, we're all trying to make, like we're reconstructing ears to look more like Spock ears, because we know that those are—

Justin: Right, that's why everybody's getting that—

Sydnee: Superior—

Justin: Spock ear surgery.

Sydnee: The Spock ear surgery that is so popular now—

Justin: The SES.

Sydnee: Just another example.

Justin: I got a BBL and an SES last week.

Sydnee: [chuckles]

Justin: You can only notice one, but I still can't sit down.

Sydnee: [chuckles] So, he—so he goes to Caltech. He's studying neurophysiology. He wants to know more about, like I said, the human brain, how can chemical substances—what could it do? And kind of exploring

that idea. And he also gets engaged at this time. And basically, the story is, he's overwhelmed. Life is stressful. So he decides to kind of take a break from learning, and he goes and works for a lumber company for a little while.

Justin: Mm-hm.

Sydnee: I feel like you find this story often in these like academic science people who like want to go take a break and work with their hands for a period of time, do something that doesn't engage their brain in the same way.

Justin: Just like at the end of Office Space.

Sydnee: Yeah.

Justin: He wants to get out there, do something outside.

Sydnee: Yeah.

Justin: Work with his hands, it make sense.

Sydnee: So he goes to do that—

Justin: We're animals!

Sydnee: [titters]

Justin: So if you are in—if you're… you spend too long in the lab, eventually you go wild. You gotta get outside and—

Sydnee: Yeah.

Justin: Run around, jump on rocks and stuff.

Sydnee: So, he does this and ends up getting his foot crushed, unfortunately. So that leads him to a lot of time in the hospital. And this, I think, is why he goes into medicine. There were a couple different stories

that he told about what inspired him to go into medicine.

Justin: Sure.

Sydnee: This is the most common one I found—

Justin: It could be a constellation thing, because you know.

Sydnee: He watched the doctors take care of him. And he had had a couple other experiences. He watched—his dad was in a coma at one point, and so that made him wonder about the brain turning on and off. And he watched doctors take care of his dad, and his brother died when he was younger. So there were all these experiences that kind of pushed him towards medicine. So, and there's this theme where like—I mean, his entire life, when he didn't have an institution that funded his research, his dad was there for them s—

Justin: Mm-hm.

Sydnee: Dare—there for him. Even if he didn't agree with like his track.

Justin: "I don't agree with science, but I'm here for—[titters] I'm here for you."

Sydnee: "But you want to go to med school, so I'm going to connect you to my friend, Charles Mayo." That, yes, that Mayo.

Justin: The mayonnaise guy?

Sydnee: No. [titters]

Justin: Oh, the mayo—

Sydnee: The clinic guy.

Justin: Yeah, the Mayo clinic guy—

Sydnee: "And he's going to advise you." And he advised him to go to Dartmouth, which feels weird, but he did. So he went to Dartmouth for

medical school, and while he was there, he became fascinated with research. So he—Dartmouth was very much focused on, at the time, creating physicians who would go practice, not necessarily who would go into research. Which you can do. You know, I don't do that. Everybody always… all through your career in academics, they're always wanting you to do research.

Justin: Mm-hm.

Sydnee: But it's not my thing.

Justin: Yeah.

Sydnee: I like to do stuff. But—

Justin: You don't like to write it down.

Sydnee: No, I hate having to write it down.

Justin: [chuckles]

Sydnee: If somebody could just follow me around and write down what I'm doing—

Justin: Yeah.

Sydnee: That would be really great.

Justin: Yeah.

Sydnee: They always tell you a med student will do that. That's not true. That's not true. They won't do it. [chuckles]

Justin: See, for your—for your new nurse, that's what you need. You need, when they hire your new nurse, you need a nurse who's also kind of like a… like a bard. You know what I mean? Like a combo. I don't know if that you can train as like a combo nurse and bard. So you're like doing all the incredible essential things, but you're also like doing some heraldry and stuff

like that.

Sydnee: It would be incredible if I had—

Justin: Filling out scrolls.

Sydnee: A nurse who was into research as well, and could help me with—because I'm not. I'm just not. It's not my strong suit. I like to do this stuff, and I know there's stuff that we can publish, but I just am never going to take the time to write it down. I'm also looking for, I need a nurse desperately, if anybody is interested. [chuckles]

Justin: If you want to work with Sydnee. Sydnee's a nurse at Harmony House.

Sydnee: MA, LPN, RN.

Justin: Get in touch.

Sydnee: If you—if you can draw blood and you'll be nice to my patients.

Justin: Sawbones@maximumfun.org.

Sydnee: [laughs] Let me know.

Justin: Let us know.

Sydnee: In desperate need. So anyway, he's interested in neurophysiology, he goes—

Justin: You don't have to be a scribe or a bard. [chuckles] Just a regular—

Sydnee: No. No, I—you actually don't have to be into research either. I really just, I need somebody who will be nice to people experiencing homelessness, and also is great at drawing blood. That's really it.

Justin: Yeah.

Sydnee: So anyway, he decides he wants to go to med school. He goes to Dartmouth, he—while he's there, there's all these interesting accounts throughout his life, a lot has been written about this guy, and he's inspired a lot, so it makes sense, where like at the same time he dissected like a wild number of cadavers. It caught my attention because I went to med school, we are assigned a cadaver as a group. So myself, along with, I think I had six people total in my group. So me and five other students had an assigned cadaver, and we spent our time in anatomy lab going through the different areas and dissecting it. He dissected 32 cadavers during his med school career, which feels like a lot. A lot. He also allegedly—

Justin: It's just us here. It seems like maybe too many.

Sydnee: [chuckles]

Justin: If I had to like, I mean, as a layman.

Sydnee: I don't know where—I don't know how he had the opportuni—well, it must have—it was a different time. It was a different time!

Justin: It was a different time!

Sydnee: Different time!

Justin: Sawbones.

Sydnee: He—

Justin: It was a different time.

Sydnee: [titters] He once took the human intestine and stretched it all out end to end across the whole room, allegedly, so that he could—

Justin: And then he tied all 32 of them together and then—

Sydnee: [titters] No. So that he could measure it, for real, like not estimate, but like… anyway.

Justin: Gotta have a long hallway too. Man, I hope the hallway was really, really well cleaned after that, like super well cleaned.

Sydnee: He, while he was there, he developed an interest in self-experimentation, and this would… this is really where—

Justin: The least surprising thing you've said about this cat in this entire episode. No way, no how.

Sydnee: He believed very strongly, he would say, "My body is my laboratory." That if you—you should not do something to a test subject that you haven't done on yourself first. I am not saying these are principles of research, these were his personal beliefs. And so at one point, for instance, he wanted to see if this… this thing called glycocyamine, which you have in your body, it's what—it's made by other amino acids, stuff happens, it turns into creatine. It's goo—it—you need it for muscles. This is what you need to know. You need it for muscles.

Justin: You need it for muscles!

Sydnee: You need it for muscles. So he went on a diet with no protein whatsoever. He gave himself small, small amounts of glycine and arginine to try to make just a tiny amount of this, and like basically see what would happen. And he got really sick and weak.

Justin: Mm-hm.

Sydnee: And this was fascinating. This was the first paper he ever had his name on. And because of this, he actually moved to the University of Pennsylvania to finish his MD, because that was a much more research-based organization. And there is where he started to study more about the brain. He had professors that were doing things with the circulatory system, and he was able to pull on his physics background to like make a new blood pressure monitor. He made multiple products on his own.

Justin: Hm.

Sydnee: I don't think he patented most of them. It's one of those things

where he probably could have made a lot of money, but he never pursued that.

Justin: Mm-hm.

Sydnee: He would create a new invention, something that would be better. For instance, it was rec—this was recording blood pressure on test pilots, in high altitude conditions. And so it had to be… whatever, physics is not my strong suit. It had to be different than your standard sphygmomanometer, and he was able to invent that.

When he graduated, he initially joined the faculty. And at the time, this was during World War II, there was a lot of research money coming from the military into places like the University of Pennsylvania, where they were doing work on like, okay, for the Air Force, if you're in a situation where, you know, oxygen is at a minimum, and what about decompression sickness?

And so they were doing all this sort of really military-focused research on the human body. How can we maximize your performance in these extreme states? How can we make sure people survive them? And he very quickly lost interest in doing research for the military.

It was—it was interesting, because you see him do this work initially, where he is helping—like he did a lot of neuromapping. The very early efforts to map the human brain and figure out like where are the centers of your brain that do like memory or pleasure centers, or whatever. He did a lot of research back in the late '40s and into the '50s around this.

Justin: Mm-hm.

Sydnee: And learned a lot from mapping monkey brains. And—

Justin: Monkey brains or just regular?

Sydnee: Just… regular… regular old monkey brains. And you know, the implications of this, clearly now if we think about things like Parkinson's disease or epilepsy—

Justin: Mm-hm! Oh, yeah—

Sydnee: You can see the connections, right? If we understand where these different areas of the brain. So this early neuromapping was super important, the things that he was doing, but he was still being funded a lot by the—or not directly by the military, but working for institutions that were.

Justin: Or—yeah.

Sydnee: And he began to suspect that the interest on their end was more for brainwashing.

Justin: Mm-hm.

Sydnee: [titters] As opposed to—yeah. So—

Justin: So morally he started to feel a little bit uneasy.

Sydnee: Yes. So, that is when you see this kind of break as we move from the mid to late '50s into the '60s, where he's being influenced a lot by like philosophers and thinkers and psychoanalysts of the time about, you know, not restricting your concept of reality, of consciousness. That maybe the mind is capable of stuff that we don't understand.

Justin: Now we're talking.

Sydnee: And he's done—he's done this really hard science. I mean, when I say hard science, I don't mean difficult. I mean like this is the hard—these are hard sciences. These are—he has studied physics, he has studied anatomy, he's learned about brain mapping in a very, you know, evidence-based, rigorous way. And he's done some weird stuff with self-experimentation, but he's basically on the straight and narrow. But it was this moment where he kind of breaks with military funding, for the most part, that he decides he wants to explore human consciousness—

Justin: Yes.

Sydnee: In a new and creative way. And this is really the work that I think

has left the biggest legacy, not just in science, but in our popular culture and concept of the human mind. So, I'm going to tell you about it.

Justin: Okay.

Sydnee: But first we have to go to the Billing Department.

Justin: Let's go!

[theme music plays]

[ad break]

Sydnee: So, he decides at this point that we need to understand like the brain is constantly taking in stimuli.

Justin: Yes. God, yes.

Sydnee: What he wants to know is if you remove all external stimuli—

Justin: Mm-hm. How nice does that sound? Is that the question? Very.

Sydnee: Well, what happens in the brain? He was very interested. Because I mean there's kind of two possibilities. Either the brain kind of stops… And you have to imagine him sitting with his dad bedside during the period that his dad had a coma inspired this. Is the brain stopped?

Justin: Yeah.

Sydnee: Is it just off? Is it like a light switch?

Justin: Mm-hm.

Sydnee: Or if you remove all external stimuli, does the brain continue to do something? And what does it do?

Justin: Hm. Well, wouldn't you already have—like I mean, how is that different from like if you get in the sensory deprivation tube and you just like

think about stuff for a while?

Sydnee: Well, honey, he's about to create a sensory deprivation tube.

Justin: Oh, sheesh? Okay.

Sydnee: This is before. We are talking about—

Justin: Oh, because we didn't have a way of removing the external stimuli. Ah! Interesting.

Sydnee: We are talking about the inventor of the modern sensory deprivation tank.

Justin: *Aah*, look at that. I—

Sydnee: Yes.

Justin: I didn't know. I promise. That was just a legitimate organic segue.

Sydnee: So—

Justin: Where my ignorance was once again the fulcrum on which this whole operation turn!

Sydnee: [titters] There had been attempts to do this before, but the controlling for temperature was difficult. He was not the first person to think about like depriving oneself of all sensory input. He was the one that came up with the best way to do it. So, he introduced the idea of flotation. If we're in water and we're floating, then we're not going to touch any other surfaces. If the water is basically the same temperature as our body, you're not sensing it anymore.

Justin: Sure.

Sydnee: You know, it becomes a non-input at that point.

Justin: Gotcha.

Sydnee: And then of course you make it dark and quiet, and all that other stuff that people probably had already figured out. A dark, quiet room was not revolutionary. The floating was.

Justin: And non-delicious.

Sydnee: No. [titters]

Justin: And not stinky.

Sydnee: There were some tanks that he used that were from swimmer research that had been done during World War II by the—by the Navy, under—to under—better understand the metabolism of swimmers. So there's some tanks. Initial—I think—I think this is interesting. The initial use of water, they didn't put all the salt in it that they do. Because if you've ever—if you're familiar with a modern sensory deprivation tank, and they're popular now, like you can pay to go float in them… at places, if you want to. And I think if you've ever watched, you know, Fringe—

Justin: Fringe.

Sydnee: Or Stranger Things, then you know exactly what I'm talking about. The modern use is we put tons and tons of salt in the water, so that you'll float, right? So that it will be more dense and you'll float on the water. Initially, people would be submerged and wear these kind of helmet things that would allow you to breathe, and only the top of your head would be…

Justin: The idea being that the air still has some sort of…

Sydnee: Yes.

Justin: Sense.

Sydnee: Or just we hadn't thought about floating yet. [chuckles]

Justin: Oh.

Sydnee: We hadn't—we hadn't thought like, oh, we could put a bunch of salt in there and make you float.

Justin: Mm-hm.

Sydnee: Which is better, because then we don't have to worry about you accidentally suffocating.

Justin: Yes.

Sydnee: Right?

Justin: Right.

Sydnee: So you don't fall asleep and then drown. So it's a better situation. So he was the one who came up with let's dump a bunch of salt in this thing, we'll control the temperature in the chamber, we'll control the—you'll still want to, you know, keep it as dark as possible, so if you have to put a mask over the eyes or whatever. But otherwise just no light, no sound, float in the tank. And he, of course, since he believed in… self-experimentation, tried it on himself initially. So he would get in the tank and be in there for hours.

Justin: Historically chill. That's like a chill no one has been able to chill to before, like… He's like three hours later like, "Guys, I've done it. I think we can stop with inventions. You just go in here and chill."

Sydnee: Well, and invent. I mean, this is—

Justin: Whoa!

Sydnee: This is the other thing is, while he—first of all, he felt like he got his mind rested in a way that sleep had never been able to achieve.

Justin: Mm-hm.

Sydnee: Two hours in the tank, he thought felt like eight hours of sleep. And not sleeping.

Justin: And then the—

Sydnee: You're not sleeping in there!

Justin: The next day you were at your mother's house.

Sydnee: [chuckles]

Justin: And that was like one regular night of sleep. But then you came back.

Sydnee: And it was like two nights.

Justin: It was like two nights.

Sydnee: So he—and while he was in the tank, he—and he writes about this, he found there were many, many states of consciousness of being. And you could have waking dreams, hallucinations, you could have total events in these inner realities. And they would be so real that you might even get confused, did that happen or not? I experienced it in such a real way. At times, this would—this began to make him anxious. Because the question started to arise in his mind, are these hallucinations? Are these like dreams? Are these fantasies? Are these just imaginings? Am I receiving messages?

Justin: Mm-hm.

Sydnee: Is there a greater force? He never renounced, as far as I can tell, he never fully renounced Catholicism. I mean, remember, he was raised in a very devout Catholic family, and he went to Catholic schooling.

Justin: Mm-hm.

Sydnee: He just sort of… laid on top of that sort of structure of religion, of the concept of a higher being. A new concept, still dependent on there is something bigger out there.

Justin: Sure.

Sydnee: But with, well, and we'll get to it, different names and such. But he felt like there was something outside that he was beginning to connect with, while he was in the tank.

Justin: Sure.

Sydnee: And that maybe you could use it to communicate with people far away, or with beings that we cannot see or detect.

Justin: Mm-hm.

Sydnee: And again, as I'm saying this, if this sounds like, well, duh, I watched Stranger Things… This is where so much—I mean, as I was reading about this guy, I feel like so much of popular culture has come from this. And I didn't know who… I didn't know who he was.

Justin: Yeah.

Sydnee: It's really interesting. So, at this point, LSD was a big thing, especially among these scientists who were kind of on the edge.

Justin: Expanding their…

Sydnee: Right, right. Very fringe moment. And there were a lot of his peers who were like, you know, if you think you're getting in touch with the greater consciousness while you're in that tank right now—

Justin: Mm-hm.

Sydnee: Try it on LSD.

Justin: Mm-hm.

Sydnee: He really held out for a long time. He did lots of research and experiments in the tank on his own before he finally decided to try LSD.

Justin: Hm.

Sydnee: And then that's when he really began to connect and write about and attract a lot of other psychonauts to come… enjoy the tank with him.

Justin: [laughs]

Sydnee: [titters] And that was re—I mean tha—really, this is where you begin to see a lot more people engaging in this, building their own.

Justin: Sure.

Sydnee: Other scientists, other people sort of on the fringe, copying what he's done.

Justin: Mm-hm.

Sydnee: And then using it, and then incorporating psychedelics especially to see what—how the consciousness can expand.

Justin: Yeah, this is—I mean, and a lot of this is overlaid with like… meditation and things like that, the idea of a cosmic consciousness that connects everything. And that is like, that energy is part of what you're dialing into when you're pretty deep in meditation. So, yeah, I think you're seeing some of like those ideas reflected here too.

Sydnee: It's very much, as we move into the '60s and '70s, all of—it's a…

Justin: Meditation is basically a way of—

Sydnee: It's a rich time for this.

Justin: A way of trying to do what the sensory deprivation tank would do, right? You're giving your mind, you know, in a lot of ca—I mean, depending on the type of meditation, but you're giving your mind the simplest possible task, so it's not thinking about… the sounds, the smells—

Sydnee: Right.

Justin: All that stuff. So it's kind of a… same… you know, same purpose,

different, different methods, it feels like.

Sydnee: Yeah. And I think people use sensory deprivation tanks for a lot of different reasons. For him, it very much started to evolve into a connection to a… something that was real. A real external consciousness, not a greater understanding of himself or his own mind, or even the human mind. But the idea that it would allow you to connect with something that was real and external, and could be communicated with, if you just knew how. He had this—I found this interaction with Richard Feynman, the physicist, who was very interested in checking out these tanks, and so went and met him. And he talks about how he's looking at the tank, and the entire time Lilly is telling him about all of his sort of mystic stuff, the way he calls it, gorp. He says all kinds of wikiwack things, all kinds of gorp.

Justin: [chuckles]

Sydnee: And he said he didn't pay attention to any of that because he doesn't believe that, but he also didn't challenge it, because he really wanted to get in the tank! [chuckles] He wanted to try and see. And he took a little bit of ketamine and got in the tank. And afterwards, he talks about like, "The only thing that bothered me is I don't know, was… was I just dreaming? Did I just fall asleep?" And I really like that, because I feel like that would be my very pragmatic reaction to this. Well, did I just fall asleep and dream? Because I can do that in a bed. Like I don't need a whole big tank of saltwater to do that. So anyway, he wrote, when he published his book, the next book he wrote, he sent Lilly a copy and said, "Thanks for the hallucinations."

Justin: Huh.

Sydnee: And Lilly wrote back, "Thanks for the book, Dick, but you stopped being a scientist the instant you said that word hallucinations." And they would go back and forth for a long time because he did not believe these were hallucinations. He firmly believed we are connecting to something real out there…

Justin: Hmm.

Sydnee: I just can't prove it. And that's what he started playing with dolphins. So at the time, there was more interest from the military, again, now it's the Navy, and actually from NASA.

Justin: Great.

Sydnee: And a lot of this is like we're moving into like MK Ultra time. So there's all this interest now in how can we communicate without actually communicating, and is there a consciousness we can tap into? And men who stare at goats, and blah, blah, blah. All of this is happening. And so, one question is do we—could we communicate with a really smart animal here on Earth? And then if we understand that better, would it teach us how to communicate with maybe extraterrestrial life?

Justin: Mm-hm. Okay.

Sydnee: So dolphins became the thing. So, he… he built a dolphinarium. He took a house on St. Thomas, and he flooded a part of it, so that dolphins could be right there with you.

Justin: Amazing.

Sydnee: Yeah.

Justin: I mean, an amazing concept. Good job. I bet that—that doesn't come to people who don't lie around in tanks on LSD, folks. That's the kind of ideas you get.

Sydnee: Yes. So he—so he did this. And part of it was—and by the way, there were two female dolphins and one male dolphin, Sissy, Pamela and Peter.

Justin: Mm-hm.

Sydnee: They were bottlenose dolphins, in case you're curious. And… Justin, you may also know these dolphins as Flipper.

Justin: No kidding.

Sydnee: Yes, because these were all dolphins that were used as Flipper.

Justin: Kids…

Sydnee: Flipper was not just—

Justin: Kids—

Sydnee: One dolphin.

Justin: Flipper was, believe it or not, a TV show about an adventure dolphin.

Sydnee: Yes.

Justin: That's…

Sydnee: And these three dolphins then went to live in a flooded house on St. Thomas… with Lilly and his team. And their communication was studied. And he had his own—now, he also had a lot of other interests. And at the time he was getting well into LSD and ketamine, especially he would eventually become too into ketamine. And so he wasn't always there—

Justin: No such thing as too into ketamine?!

Sydnee: Too into ketamine. So, he spent a lot of time there doing his own research on trying to understand how dolphins communicate with each other. And then could I—could he use that to create a dolphin language?

Justin: Mm-hm.

Sydnee: That like… And he had other researchers. And then among them was a woman named Margaret Howe Lovatt. Margaret Howe Lovatt was not a researcher, she was on the—she was there on the island for other reasons. She became fascinated with dolphins, somehow she got connected with Lilly. And she just really liked being with the dolphins.

Justin: Okay.

Sydnee: So she became a major player in the story at this point. This is where things get—

Justin: But she's more dolphin focused.

Sydnee: She just wants to be friends with the dolphins.

Justin: Okay.

Sydnee: And she had her own method of communicating with them, and developed her own dolphin language. We're at a moment where both of them are talking to the dolphins in a language that they've made up, but they think the dolphins understand. I will say from all this research, we did understand a lot more about how dolphins communicate with each other.

Justin: Have to.

Sydnee: So that did come—

Justin: We have to learn something.

Sydnee: We did not learn how to talk to dolphins, because as it currently stands, humans and dolphins cannot talk to each other. [chuckles]

Justin: As far as we know.

Sydnee: As far as we know! As far as I know, we have not cracked that nut.

Justin: But we're communicating, right? Because I know that they know about doing flips for… little fish, because I see that at SeaWorld before. So I —

Sydnee: Yes.

Justin: We're…

Sydnee: Well—

Justin: Bridging the gap somehow.

Sydnee: We can communica—the… he believed very strongly that dolphins may be able—that dolphins maybe were having deeper philosophical conversations than we were aware of.

Justin: Mm-hm.

Sydnee: And they had knowledge, because they were very big brain, smart animals, they had knowledge that humans didn't. Which is, I mean, I think that's kind of a progressive view. Like maybe we're not the smartest animals on Earth. Maybe there are other animals who know things. And if we could just talk to them… in a w—and I mean, I know that you can—you can train a dolphin to do a trick, but I'm not talking about that. I'm talking about sitting down with a dolphin and saying like, what are your views on…

Justin: Yeah—

Sydnee: You know—

Justin: I just feel like—I feel like—

Sydnee: Mortality and…

Justin: I feel like—

Sydnee: Is there a higher being?

Justin: We get hung up, I think, on this idea that communication is necessarily. Because our mind does so much with language. And I think that meditation and stuff, you're brushing up against this. I think that we lose patience with communication styles that are not language. And we forget that like, we are beings that go—that are beyond language, right? You can communicate and connect with things on a non-mind level. You know, I think that we think that if we're not using language, we're not using speech, it's not communication. But like, there's a lot of different ways of connecting

and communicating. You know what I mean? I think this is where some of this loses the plot is that if you start getting hung up on the distinction between, was that a hallucination or was that, you know, something that my mind created? You're already like… you're trying to bring the mind into something that maybe is beyond the mind.

Sydnee: Well, I think this is a really good… a good demonstration of you have this individual who clearly has his mind open to possibilities. And that's key to being, well, to being a good scientist. But it's also key, I think, to having an enjoyable experience as a human on Earth. So, it's a good quality to have an open mind.

Justin: Mm-hm.

Sydnee: But I think that in pursuit of that, he was willing to chase down every lead and to consider things, without really like taking a step back. If you are having these experiences in an isolation tank under the influence of LSD, is it—isn't it more likely it's a hallucination—

Justin: Sure, yeah.

Sydnee: Than—

Justin: I mean—

Sydnee: A voice from an external being? Isn't it more likely? Don't you think it's more likely that you and the dolphin are not talking? You're just making a noise and the dolphin's making a noise—

Justin: Sure.

Sydnee: You really—you know? I mean… And I feel like it's good to be open, but when you do not have evidence that it's anything more than the dolphin made a noise at you. And I—and things got really—I don't want to get too hung up. If you know this story, you know what I'm about to talk about. Margaret Howe Lovatt, I don't want to get hung up on this, but the "research" that she was doing went far beyond anything that is acceptable, reasonable, and into the realm of animal abuse.

Justin: Oh…

Sydnee: Because of the intimate relationship she formed with Peter, the male dolphin.

Justin: Wow.

Sydnee: So—

Justin: He gets to live in a house with three different ladies. Not to be heteronormative, but this dolphin is doing okay for himself.

Sydnee: She says it was not sexual, it was pragmatic. She needed to keep his attention, and this was what she had to do to… anyway. So obviously the research was not upheld as this, oh, look at all this great stuff we've learned, because, I mean, it was—I think an account was—

Justin: They might've liked the first part, but when they get to that page—

Sydnee: When they get to the—yeah.

Justin: Yeah.

Sydnee: I mean, it was—it was bad—

Justin: Yeah, I bet you could tell! You think you hear a roo—a sound across the room like *pshw*. "You just got to 17, huh?"
"Yeah, just got to page 17. Woof!"

Sydnee: "Never mind."

Justin: "Woof! Never mind!"

Sydnee: It was like parodied in Hustler.

Justin: Send the science back.

Sydnee: So, this was not… we left science behind. And that definitely happened as Lilly got older. He got really into ketamine. I mean, so much that at one point he had to admit himself to the hospital, because he was injecting himself with ketamine like every hour. And I mean, some of this was in pursuit of "I have to connect to this thing out there that I can't connect to."

Justin: Yeah.

Sydnee: And that's the danger, right?

Justin: One—

Sydnee: If you have so convinced yourself like—

Justin: And if you start needing more and more substances to do that thing, it's like, hm…

Sydnee: Do you really think it's a thing or you think it's the ketamine? He did develop some other theories that I think, Justin, I asked you before we started this, if you knew about a game about a dolphin called—

Justin: Echo the Dolphin.

Sydnee: Echo the Dolphin.

Justin: Mm-hm.

Sydnee: So, he—his belief in a god kind of changed into, he believed in something called the Earth Coincidence Control Office, or ECHO.

Justin: Okay.

Sydnee: Which is a higher intelligence that controls everything around us.

Justin: Earth Coincidence Control Office?

Sydnee: Yes.

Justin: That's sick.

Sydnee: Yes. He also warned a lot—there are rules. There's—you can read all about this. He had all these rules that the ECHO makes you follow. And he also was very worried about, he thought that the big battle that might end humanity would be with solid state intelligence.

Justin: Meaning?

Sydnee: I mean, it kind of sounds like AI? It has to do with like computers and us building technologies that will decide the Earth that would best benefit them, like the ecosystem, the world, the situation that would best benefit them is not the same as humans. And so humans become unnecessary and basically extraneous, and an annoyance in a sense. And that there would be a battle.

Justin: Hey, don't get scared. This guy was probably super high on ketamine when he wrote this! Don't get all freaked out? Like he's not his prophet? He just did a bunch of ketamine! [chuckles]

Sydnee: He was. He was doing a lot of ketamine at the time. I mean, a lot of ketamine. And I mean, but even then, like he was a friend to so many scientists, philosophers, thinkers, writers, science fiction. I mean, he was part of that… You can see all of this, the influence it had, not just on the fun stuff that we engage with. I mean, obviously, Stranger Things… we wouldn't have that tank.

Justin: Right.

Sydnee: We wouldn't have all that if we hadn't had this guy. We wouldn't have Fringe if we didn't have—and I c—I mean you can see all that. But it did expand people's ability to consider, what else could we look at? What else could these things be? I mean, I think it is important to have people who keep pushing that edge further and further out.

Justin: Sure—.

Sydnee: That doesn't mean—right, that doesn't mean the answer is there. But if you don't push it that far out, you might miss where the answer is. So, he did a lot of cool stuff. He was—and by all accounts, people really loved him. He was a very… like he was like a P.T. Barnum-esque guy. He was charming. He was amazing to be around. He was enthusiastic about everything he pursued. And you—and again, he… Think about Altered States. Have you heard of that movie? 1980, Altered States?

Justin: Yeah? Sounds familiar.

Sydnee: I think it's William Hurt, he—

Justin: Oh, okay, yeah.

Sydnee: Connects to his primal being and turns into like a primate.

Justin: Oh? Wow.

Sydnee: That was based on John Lilly.

Justin: Hm.

Sydnee: That was all—I mean, it was kind of a depiction of him. There's another movie that was made where a dolphin is trained to go like assassinate the president or something, that was all based on John Lilly. And clearly, you know, there's a lot of popular culture, the video game we talked about. You can see now why Echo is receiving communications from a higher power, it's because it's named after the higher power that John Lilly believed existed.

Justin: That's awesome.

Sydnee: So he's so much more than LSD and dolphins.

Justin: So much more than LSD and dolphins. Just like us! Thank you so much for listening to our podcast. It's called Sawbones. And we want to thank the Taxpayers.

Sydnee: Yes.

Justin: For the use of their song "Medicines" as the intro and outro of our program. And thanks to you for listening. We appreciate you so much. Thanks to Maximum Fun Network also for having us on their extended podcasting family. And thanks to you for listening. That's going to do it for us for this week. 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.

["Medicines" by The Taxpayers plays]

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