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As told to Paul Barman, 2700 words.

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# On why things don't get easier over time

Scientist and musician Dave Soldier discusses starting early, doing everything, and the value of coaches.

**In your new book Music, Math, and Mind, you mention singing mice. Could you tell me more about that?**

Not so much is known about it, but of course you hear mice making sounds, you hear them squeaking. But, that said, a great deal of what they're doing is above our range of hearing. People knew specifically about the sounds that mother mice and infant mice would make at each other when they're separated, but the idea that mice are communicating much more of the time by using ultrasonic sound, really it's only been realized the last few years.

**Do they repeat sounds like a bird would like where you follow certain melodies?**

There's a guy in Israel who studied lab mice. They're all inbred specific line of mice. He came up with a couple of hundred syllables that they use over and over again, but not in a particular order. Now there is a species called "singing mice." I don't think they're studied that much, but there's a few studies on it. And they really do sound like birds so they are probably repeating a good deal more.

So a lot of the communication they're using might not be birdlike songs, where you're now saying that you're there and maybe trying to do something beautiful or be admired. It's probably, and this is just a guess, a lot of it's more due to communication. So yeah, "I'm over here. Where are you? Is there something happening over there? You have any food? Is the light on or off? Or what are the smells like?" Stuff that would be interesting to other mice.



**It seems like you are capable of executing on all of your ideas, not just some of them.**

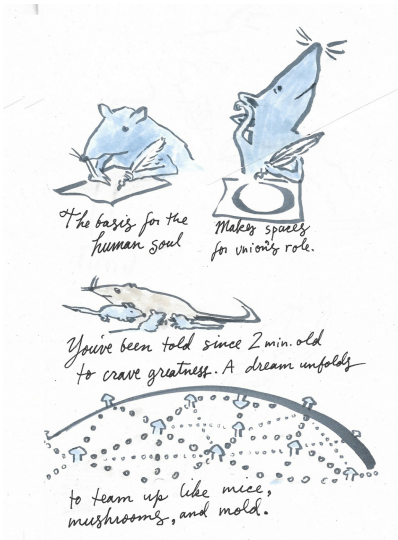
Oh, thanks. Some stuff I'd like to do, I can't do. So little bit of difficulty with that.

**How do you prioritize when you have so many things you want to do?**

I ask my graduate students and postdocs in the lab, "What's the most interesting thing, the thing that we care about the most?" And then we make a list of what's doable, and we try to match them up. Because some things which are really important—for instance, "What is the basis of the human soul?"—is a great question and we don't know how to answer it right now. Maybe it will become answerable. Right now, that's not a nice match between what we're interested in and what's doable.

But an example would be at the time of Thomas Aquinas, when he listed major mysteries for humans. One of them was, "How do two people come up with a third person? How's that possible?" He said, "Well, there must be homunculus in the man's sperm and then it enters the woman." And then there were all these ideas, but they didn't really know. And now we know. And maybe the answer might seem a little boring to people.

It's nothing as cool as a homunculus. It's two half sets of genes that match up and undergo myosis and mitosis and so on. But I'd say actually it ends up being more interesting than what St. Thomas thought it was going to be. It just needed time. We weren't ready. Our species wasn't ready to answer that question in his time. But a 100 years ago it became possible to address that.



**Do you make work with the thought that it will last forever?**

This is a Buddhist question. Nothing lasts forever. Did you know a music writer named Robert Palmer?

**Yes.**

Robert was a friend of mine and he used to talk about "all the people in New York" and then he would say something along the lines of, "And then there are those of us below 14th Street making deathless art." Obviously sarcastic, but it got to the notion that people think that that's what's going to happen. Timelessness. That was below 14th Street back in the 1980s. Right? So I would say it's probably spread throughout the metropolitan area by now.

**You don't teach everything that you do. You have all these different disciplines. How are you able to develop them at the same time?**

It's not possible so you just do it.

**Do you have a technique for managing your time?**

A little bit. But, I was even doing this when I was teenager. That's another thing, if you do these things a lot, then you can't help but learn the tricks, right? If you're not a musician, or say you're a rock guitar player, or you play the GarageBand or something, and now you want to write an orchestra piece, that's going to be really hard because there's so much to learn. You can do it, but you're going to have to spend a lot of time figuring out what all those instruments do and how you put them together and take them apart. So, because I've been doing it for so long and I kind of write an orchestra piece, write a jazz piece, write a rock piece, I can—boom!—I can do it because I've accumulated those abilities and similar analogous kind of things in the other kind of work one does. So it makes it more possible to do things.

But it's still hard. They're all challenges all the time. To some extent you do get more skill over time, but that doesn't mean it becomes easier. It might mean that you can do things more skillfully, but it's still not easier to do something good. That's different.

**Can you tell me about the coaches you've had in your life?**

Well, Pedro Cortes is a top flamenco musician in the States. He happens to live in Jersey City and he's a good friend. I fell in love with Flamenco—the dance, the music, the culture. It is a gypsy Spanish culture, or it's an amalgamation of gypsy with obviously kind of Roman Catholic, Spanish, but also Moorish, Jewish, Arabic, some African, all these influences. And influences came back when people return from Cuba, Spanish speaking people returned from Cuba. So it's really complicated and it's got a lot of, again, knowledge. It's really a language.

So for instance, I wrote a new series of pieces for solo violin played by Miranda Cuckson. Miranda's sort of, in my opinion, the top classical violin player of the present time doing unusual music and contemporary and weird music.

I wanted the old Bach pieces, which are the classic solo violin pieces, there's other ones, there's Wieniawski and Bartok, there's some classic violin pieces. But everyone, including Bartok and Wieniawski

would tell you Ysaÿe, but the classic classics are the Bach series, Biber who was even before Bach. But the six solo pieces written by Bach. And I say six pieces, but each one of them has several movements, so it's good, maybe close to two hours of music. All right? So that's the classic solo violin stuff. People tend to write groups of six violin pieces when they write for solo violin, because it's the tradition. And I don't know if Bach started it, but he's the one, he's the reason that everybody does this, so who does it? So I wanted to write them.

He used dances jigs and minuets and bourrées, and the kind of dances you would do in the early 1700s, late 1600s. I thought, let's do them with these flamenco patterns, which they call palos. I can write in them, but I don't necessarily sound right. I speak the language like a foreigner. I mean, to show a little bit of pride, I probably speak it better than anybody else who calls themselves a classical composer, but I know I don't speak it right. My accent is terrible. And so Pedro would go like, "Start over on that one," or "That phrase is not right," or "You're putting the rhythm on a bad..." He might say, "I know you think the rhythm's supposed to go there, because that's where the count is, they have very complicated counts, but in that kind of phrase, it would not go there." That kind of thing.

When we recorded it, he coached Miranda how to play it, because there can be very subtle things there that make it sound real. I wanted something that would be fun for classical players to play, but also something that people would hear in Spain—the Flamencos would hear in Spain—and they'd say this is the real thing.

Usually when people from America, or probably most of Western Europe, Asia, write something in flamenco idiom it's pretty weak. And so I'd like them to think, "No, this is it. This is so a violin playing the real thing." So, yes, having a coach like Pedro is very important.

#### **And you've had coaches throughout your life?**

Not really, but I did when I was young. I had two kind of composing teachers. The first one is around and very active, Roscoe Mitchell. Roscoe used to be in the Art Ensemble of Chicago. He still has it, but unless Malachi is still in it, I don't think he has any of the other original players— but he still has the Art Ensemble of Chicago. I studied with him when I was 17. I had moved to Michigan and I found out that he lived around there and I asked him for composing lessons.

#### **How did you find him?**

People knew that he lived there. He lived on a farm outside of town. I didn't have a car or any way to get out there, but I met some guy who was playing guitar, I forgot his name. A friend of mine back then had a car. We called him and asked him if he'd give us lessons. He wanted 14 bucks a lesson and I just didn't have it. That would be like a grad student having an extra 140 now. So I said, "Okay, you've got all these apple trees on your farm, they're not being taken care of. So I'll do that in return for lessons." I think he charged me \$8 and then I would work on the trees for a couple hours whenever I go there. I was studying horticulture at Michigan State at the time, so I was learning how to take care of fruit trees.

He was a mentor. Then when I came to New York, I started my string quartet, which I called the Soldiers String Quartet. I just felt like, "I'm in this world of writing in this tradition of Haydn and other kinds of composers who'd write down squiggles on paper." But except for Roscoe, I don't really have a background in that. So I took some lessons from Juilliard night school, and it was a fellow named Jeff Langley, who was very helpful. He'd tell me to write a new piece, bring it in next week. He'd critique it, play it on the piano and critique it and so on. Oh, but I was going to mention the other coach. It was Otto Luening.

#### **So you had three?**

Well, I would say I had two really. Roscoe and Otto, I mean Jeff a Little bit. And then Otto. The reason I met him is because I think I did his 85th birthday show. I was in my mid-20s. I was a year or two older than the guy you're talking about now. And so I became friendly with Otto and he's the co-inventor of the synthesizer.

He and his friend Vladimir Ussachevsky were the first people to do electronic music in the United States and with tapes and things like that. I just related much more to Otto, so I asked him if I could take lessons with him, and he never charged me a penny. I would drop off a score with his doorman and then he'd call me up after a few days and then he'd say, "This part is great, keep doing this. This part sucks. What were you thinking?" That kind of thing.

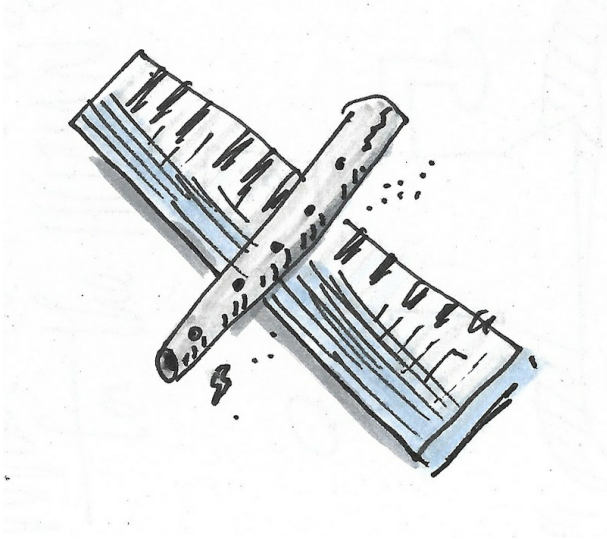
Otto was just a tremendous person and a great coach. He also coached many, many, many people from all different jazz musicians and the most dyed in the wool possible contemporary, classical people like [Charles] Wuorinen, and just a great person all around. Obviously, he changed music in a lot of ways that he's not appreciated for. But inventing the synthesizer is no small thing. He co-invented it with Ussachevsky, [Milton] Babbitt, and a team at RCA. The first synthesizer is still there, it's on Prentice Hall and 120th Street. It's a whole wall.

#### **What are you working on now?**

We're doing a piece now of St. Francis of Assisi. It's a piece about 800 years ago, say 1218. The copyright's out and now you can do it again. It was a song, but the music was lost. People have been setting it for a long time. So we're doing a new version that's going to feature Charlie Burnham singing and playing violin. Yeah. And we hope with some other really stellar players, too.

It seems like you have a great interest in bringing back lost things, which feels analogous to the vulture-bone flute. It's almost like time travel. Would you say that's an organizing principle for you?

I used to tell Robert Palmer, back when we tried to have a band in the '80s, what I'd like to do is with one hand go as far in the future as possible, and one hand go backwards as much as possible. I'd like to do both. But it's hard to put your hand out in the future so we look in the past a lot.



[illustrations by Paul Barman]

Dave Soldier Recommends:

5 Favorite Sandwiches

Banh Mi Saigon, 198 Grand Street, next to Di Paolo's Italian grocery on the corner of Grand and Elizabeth in New York's Little Italy / Chinatown border. The all time classic banh mi sandwich was from Sau Voi, nearby on Lafayette street, and closed during the pandemic after 30 or more years. Here the sandwich is not as amazing, but still makes fresh baguettes and has lines of locals, not tourists, out the door. Unlike Sau Voi and two others nearby on Elizabeth and Broome streets that are only for takeout, Saigon has a counter for eating standing. Their standards are the first two on the menu, one named after the restaurant, a barbeque, and a grilled chicken, and they have vegetarian and sardine, order them "hot," i.e., with red curry paste sauce. Di Paolo's also makes a daily sandwich, one kind per day, stacked by the cash register, and always great. Luigi's family has run it forever, and his son imports wine next door.

Pisillo's, 997 Nassau Street, NYC, one owner fresh off the boat from Naples, the other from Sicily. Enormous, will last for the next day. Astonishing sun dried tomatoes and olive paste, and fresh bread from Brooklyn. All great except the tuna, suggest you try one with mortadella. They have vegetarian ones with great mozzarella.

Mona's, 3901 Bank Street, New Orleans: hard to choose a favorite in NOLA, but they used pickled vegetables, so saying number one for me... equivalent of a po' boy, they used to say muffaletta but changed the names - Verte Mart, 1201 Royal Street, just as great, take out only.

Bar El Comercio on Linares Street in Seville, Spain, the montadito comercio, which is smashed potatoes and tuna on an Andalusian pan, \$3, plus \$1 for cafe con leche, a manzanilla La Giatana for \$2.

Tasty Deli, 4020 Broadway, Washington Heights NYC, Tom's Favorite is fried eggplant with horseradish. Not healthy perhaps but great...

Note, no barbeque here. That should be top 5 for someone else, and ought to include Chapel Hill, North Florida, and Memphis.

Name

Dave Soldier

Vocation


musician, neuroscientist


Fact

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