

**GUEST: SAM GON**

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You find yourself switching channels, or looking at channels simultaneously. There is a saying, of course, right? *'Aole pau ka ike ma ka halau ho'okahi*. You cannot learn everything in a single *halau*. So, if you look at that in its broadest sense, you cannot know everything in the world by looking at the world in one way.

**Dr. Sam Gon, senior scientist and cultural advisor at the Nature Conservancy of Hawaii, next on Long Story Short.**

Long Story Short with Leslie Wilcox is Hawaii's first weekly television program produced and broadcast in high definition.

***Aloha mai kakou*. I'm Leslie Wilcox. In this episode of Long Story Short, we'll talk with Dr. Sam Gon, senior scientist and cultural advisor at the Nature Conservancy of Hawaii. For nearly three decades, he has tracked and preserved native plant and animal species across our islands, and around the world. His curiosity with nature, especially with insects, began when he was a little boy in Nuuanu Valley, where he was born, raised and as of this conversation in 2012, still lives.**

Nuuanu is an amazing place to me, and the ridge in particular. I'm a mountain person, I like being up in the mountains. I think I'll save the next lifetime for ocean, for ocean life. But for me, jumping over a fence and getting on a ridge, and hiking up to the top of the mountain to look down onto the other side, and then seeing all of the plants and animals that you run into on the way up; that's what it's all about for me. And I guess I've always been that way. I was that kid that would, after school, be down in some stream, turning over rocks, and looking at things. I never outgrew that, I think.

**And do you think your fascination with mountains comes from having grown up in Nuuanu, which is a valley with mountains?**

Maybe so. Mom was an administrative assistant with the Internal Revenue Service, and she wasn't really that much of an outdoors person. She really enjoyed just being at home, and raising the family. And so, we didn't really get out and about that much. And my dad was in the Department of Education. He was a teacher and a vice principal, and then a principal, and then an

officer in the Office of Instructional Services, and he worked on adult education programs.

**So you're saying neither of your parents really guided you to the mountains?**

Yeah. No, it was actually in high school when I just happened to blunder onto a hiking group. So, it was there that I met Loren Gill. And Loren Gill was ... he's called the father of environmental education in Hawaii. And he was like an encyclopedia of the natural history of Hawaii, and Hawaiian cultural history, and just a whole background of what's important to know when you're growing up and living in the Hawaiian Islands. He was one of those folks that were foundational in the whole conservation movement in Hawaii.

**And so, you got to spend time with him personally, a lot of time?**

Actually, more and more time, as it turned out. Because I was interested in natural history, and I knew the names of plants and animals and the like, I started a step ahead of the game. And so, when he met me, say, on a trail, on a Sierra Club hike, and he would point out a particular plant or animal, and I would say, Oh, yes, and I would add something to what was there. And I think I was always interested in spiders, and there was a spider making its orb web there, and I told him about how they select their place, and the guidelines, and which lines go in first, and then the orb is placed, into the prevailing wind, and so it can catch its bugs more efficiently. And he said, Well, I've learned something today.

**Wow. Now, how did you know all that? Had you ...**

Well, my dad was an educator. Our house was full of books, books of all kinds. And I remember that there was a Time Life series on nature.

**Oh, I remember those.**

Yeah. And they had the birds, the mammals—

**Right.**

—the reptiles, the insects.

**So which one did you pull out? Or did you pull out all of them?**

Oh, I pulled all of them out.

**But you liked the spiders.**

Every single one. And I liked the insects. I liked the insects a lot.

**Why insects? They're not very cuddly.**

Well, when you're living in urban Honolulu, right next to Liliha Bakery, the wildlife that you're going to see are insects. Butterflies and—

**And you wanted to know what that was, and that was.**

Sure. It's the kind of thing, right, that makes you just fascinated in the fact that every single little thing you find out there probably has just as complex and fascinating a life. And you just happen to glimpse them as they pass by, or you see them on the plants and you don't think twice about it. But it made me curious about how all things in the world live, and their interactions with each other. I guess I was a budding ecologist at that time. I think I can thank my father for that. He was the one that built me this screen box with a little hinged door, and we would go out to Kauluwela School, I think it was, and they had a

lot of crown flowers growing there, and of course, the monarch butterfly caterpillars were all over those.

**Right.**

And so, we would gather up some medium sized ones, and maybe a few small ones, and a whole bunch of leaves, keep those leaves the refrigerator and in water so that they would stay fresh, and we would feed those caterpillars in that little box until they achieved full size, and they would climb up to the top and hang upside down, and turn into that beautiful green chrysalis, and then about ten to twelve days later emerge as this gorgeous monarch butterfly.

**How old were you then?**

Oh, I must have been eight or nine.

**What kind of a kid were you? Obviously, you were curious and you were interested in, as you say, the living world.**

Well, I was that short-haired kid with the Pan Am bag in elementary school and intermediate school. I was always considered a bit of a nerd.

**Now, later, after you went through school, Pan Am bags became cool. Did you know that?**

I absolutely did. But at that time, they were like the nerd sign.

**And now, you can sell them online, on EBay.**

That's true. I kind of wish I had one.

**So, did you always pretty much know that you were going to be a biologist?**

I think that was predestined. Yeah. And so, I know that while I was in school, in college, my mom and dad were thinking, Well, maybe he'll be a doctor. Right? 'Cause biology and—

**Science—**

—human biology—

**From this general science, just something ...**

And then, when I got my zoology degree, Well, maybe he'll be a veterinarian. [CHUCKLE]

**But you didn't choose to be an entomologist, even though you loved insects.**

Well, my PhD turned out to be in animal behavior, but the animal that I chose was the Hawaiian Happy Face Spider. So that whole attention to something smaller than the chimpanzee or a lion, or even a bird, that asserted itself when it came time for me to get my PhD.

**Was there a lot of stuff written on Happy Face Spiders at that point?**

Happy Face Spiders at that point were turning into the poster child for conservation. Right? It had that brilliant yellow face with a happy smile on it, and native to Hawaii, only found here, and let's protect their habitat. And, William Mull, Bill Mull was the macro photographer that made Happy Face Spiders famous. He took such wonderful pictures of them, and they were in every slideshow of natural history in Hawaii. And during one of those conferences in which he gave his show of Happy Face Spider pictures, I said, So Bill, what does anybody know about the biology of these spiders? And he goes ... Practically nothing. And I thought—

**There you go.**

Somebody's gotta do something about that.

**PhD topic.**

**After earning degrees in biology and zoology at the University of Hawaii at Manoa, Sam Gon went on to the University of California at Davis for his PhD in animal behavior. While he pursued his scientific interests, Sam was developing a passion for something else; the Hawaiian culture. It started back in high school at McKinley, where he discovered the art of Hawaiian chanting, *oli*.**

Auntie Edith Kanakaole, who was a friend of Mrs. Kaulili, who was our choir teacher—I never took choir. But because Auntie Edith and Mrs. Kaulili were good friends, Mrs. Kaulili arranged for a surprise assembly of the whole school, and for an hour, Halau O Kekuhi came and did a whole *hula kahiko* section with chants, and dance. Think about it. This is 1971, and men dancing *hula*, and *hula kahiko* were just ... nobody was doing that. And I think I sat there with my jaw dropped open, 'cause it was just so amazing. It resonated with me. And I immediately went out and got Auntie Edith's album, *Haaku I Pele I Hawaii*. And all of those chants were there, and I must have listened to that album thousands of times. I remember memorizing her opening chant celebrating Hilo. It was my first exposure to the role of the natural world in Hawaiian culture. So when I graduated, one of the things that I did at UH was, take Hawaiian language. I took my first *hula* lessons at UH, and I was fortunate that at that time, Hooulu Cambra was teaching *hula* there.

**And that was the heady days of the Hawaiian renaissance.**

Folks like Kanika Chun, or Kalani Akana; now, they are the movers in immersion language, or in Polynesian voyaging, or those kinds of things.

**Everybody got inspired at that time and jumped in.**

Yeah, to pursue those kinds of things. And sometimes, I think, Oh, I wonder what would have happened if I pursued that cultural side of things before I had pursued the natural side of things. But the nice thing is that at that time, I was gaining my foundation in *hula*, let's say, with Hooulu Cambra, who was Auntie Maiki's first *uniki*, right? In fact, some people say the first *uniki* of modern times. And so, she took that very seriously. She was strict. Her language, your pronunciation had to be correct. She wanted to make sure that when you were learning a *hula*, that you knew the meaning of that *hula*, and executed it properly.

**And that's how you wanted to be, anyway, because that's your orientation as well.**

I think I love the details of the world. And so, it fascinated me that here was someone who knew the depth of something. It wasn't a superficial thing at all. But that was all laid aside when I went to grad school. And so, I came back, got married to my wife Sherry. And Sherry was a student with Kumu John Lake. She

was a student of dance. And in 1994, she underwent her *uniki* to go from *haumana* of *hula* to an *olapa*. So, to go from a student of *hula* to an actual dancer.

**So then, you were surrounded by ...**

Well, it was my choice to be or not to be surrounded by that. I wasn't in the *halau*, it was Sherry that was in the *halau*. And as we got to know each other, the ones that were taking both chant and dance were saying, Oh, Sam, you gotta sit in on Kumu Lake's *oli* class, you'll love it. You'll love it. And I thought, Yeah, why not.

**Why did they think you'd love the chant, as opposed to the dance?**

I think it was because at the time, I was neither. I was not a chanter or a dancer. And Sherry was *uniki*-ing as a dancer, and maybe they thought they need more chanters or something. And so, they encouraged me to sit and learn chant. And when I sat in on that first chant class one evening, they were in the middle of memorizing a seventy-five-line *kepakepa*. *Kepakepa* style is when you inhale, and you rattle off as rapidly as you can the lines that are going flawlessly. And you do that until the seventy-five lines of the chant are done. And I thought, What am I getting myself into? But at the same time, that same fascination with detail and the same appreciation for depth struck for me.

**A lot of people think chanting is just kind of a nice backdrop, but not true storytelling.**

Yeah. *Oli*, as it turns out, is an amazing medium, right? It was the way that knowledge was gathered and passed on in ancient times. It was entirely an oral tradition. And so, the philosophy of Kumu Lake was not to teach as an academic exercise, even though he himself was an academician. He was teaching *oli* to be used in practical circumstances, in a modern world. And that was what amazed me.

**You were destined to study the living world, and then it happened that, you know, you took a Hawaiian language course, you married a woman who was ...** Undergoing *uniki* with Kumu Lake, and then entered into that world.

**Do you think that part was chance?**

Who can say?

**Dr. Sam Gon tells a story about how some things in life do not happen by chance. In 1977, he and other University of Hawaii undergrads put together a proposal to study the marine and land biology in South Kona. During a side expedition, picking opihi along a treacherous Kona sea cliff, Sam's eyes opened up to something larger in our universe.**

I was already taught by Loren Gill that the first thing that you harvest from the sea, you shouldn't eat yourself. You should offer it to Kanaloa and the *akua* of the ocean, just to thank them for the bounty that you're enjoying. So, I placed the opihi back down on the boulder and moved on to the next one, had another one, ate that one. It was delicious. Maybe had one more, and I

thought, Okay, that's enough, I'll just leave now. And so, I worked my way back up the cliff. It took longer to go up than to come back down, so maybe it was ten minutes up there, so maybe I spent twenty minutes or so down in that little embayment. When I get up to the top, and I take two steps, and there's this thunderous, boom behind me, and then the Sun that had been beating down all that morning was darkened by the shadow of the white column of water rushing up out of that embayment. And in the next moment, I was bent over with the huge amount of water that was pouring down on my head and back. And after that passed and the water was rushing back down into the bay, I turned and walked back to the edge, and that whole bay was just this roiling cauldron of white water. Couldn't even see the boulders where I had been a moment before. And I thought to myself, If I was down there when that wave hit, they probably wouldn't even find me.

**You would have been flung up, and down.**

And then back down, and ... who knows. But, I certainly would have been killed. And I thought to myself then, even then, I thought, Who held that back, while I was down there, being a complete idiot, hiking by myself along a dangerous coast, going down and enjoying an opihi or two, but taking the time to respect the resources and put my first opihi down as an offering, and then waited for me to leave before that first wave hit.

**I wonder how often the intervals of that force is.**

Twenty minutes? No way, right? I mean, normally, when you're counting waves, it's not a twenty-minute interval. But for one reason or another, that occurred. I don't know how many times I've been saved in the mountains by *ulu hafer* or various other things. But even in those days, even though Loren Gill was not a person couched in *oli* or in the ancient Hawaiian prayers or the like, he did instill a deep sense of respect for the land, and attentiveness to what's going on in the world around you. And in my training with Kumu Lake, you learned that every single living plant and animal is a *kino*, is a physical manifestation of one or more of the Hawaiian *akua*. Some of those are well known to people, right? Lehua; when you think of lehua, you think of Pele, you think of the god Ku. The ohia tree is a physical manifestation of that major god of war and governance, and even of Laka. But whether you know them specifically or not, when I find myself out in the middle of native forests, even if I'm by myself for a moment, I don't feel alone at all. You feel surrounded by, you know, that uncountable presence.

**How do you put that together in your scientist mind? Head and *naau*.**

You find yourself switching channels, or looking at channels simultaneously. There is a saying, of course, right? 'Aole pau ka ike ma ka halau ho'okahi. You cannot learn everything in a single *halau*. So, if you look at that in its broadest sense, you cannot know everything in the world by looking at the world in one way. So, you can learn, you can get a PhD in conservation biology or in animal behavior, but that doesn't allow you to understand the world fully, and you should not feel that any one even general school or approach might be

sufficient to understand the world sufficiently. So, to approach from a traditional Hawaiian perspective, and to approach from a Western scientific perspective, is easy for me, actually.

**So, yeah, and you never were told you have to choose. What are you, Sam?**

That's probably the saving grace, right? My wife says, So are you the chanter ecologist, or the ecologist chanter? [CHUCKLE] And so, it's like, Why can't I be both simultaneously?

**As senior scientist and cultural advisor at the Nature Conservancy of Hawaii, Dr. Sam Gon works up close with two of his life's passions; science and culture. At the time of this conversation in 2012, Sam has been with the Conservancy in various positions for over twenty-five years. He's traveled the world to study and protect our planet's species and habitats. One of these places, Palmyra Atoll in the Pacific, is under the protection of the Conservancy and the U.S. Fish & Wildlife Service. For decades, the atoll was infested with non-native rats. After several unsuccessful attempts, a Palmyra Restoration Project in 2011 did the job.**

The rat control program ... the very first attempt at rat control was underway at the very first time that I went to Palmyra. And it was amazing to see the response of the ecosystem there. The return of certain plants, the seedlings were growing, the giant coconut crabs, meter wide.

**Oh, I'd love to see them.**

And that's amazing. Yeah. One-meter-wide invertebrate. That's from here to here [CHUCKLE] on this table with the body in between. They're so large that when, crabs do that little movement, you can hear them, 'cause they're so big. They make this, tchk-tchk-tchk-tchk-tchk sound from wherever they're hiding in the underbrush. They were in the middle of that, and it failed ultimately because they got ninety-nine percent of the rats, but there were a few in the tops of the coconut trees that did not take the bait stations that were on the ground. And so, in just the course of a few years, rats being rats, their population just resumed back to pre-control.

**What was the extermination like this time?**

This time, they went down to the forest floor to the canopies of the middle, and in the highest canopies they put baits. They put baits at all levels. And it's been over a year now, and there is still zero sign of rats. And so, at two years they're going to say, We're successful.

**What do you do with the bodies when you don't want other animals to eat them?**

I have to say, there are very few animals there that would eat them. Because there aren't any large animals, no feral cats, or anything. There was just one or two domestic dogs at the camp.

**Oh ...**

The only thing that would eat them are these giant coconut crabs.

**And did they?**

And they are not affected by the poison.

**Oh ...**

It's a vertebrate poison. So they weren't affected at all. So when I was visiting Palmyra, I was taking pictures of things, and I was backing up to take a picture, and someone said, Uh, Sam, um, you need to just stop right where you are and turn slowly to your right. And so, I turned to my right, and there was this huge coconut crab in the branch, eating a rat.

**Ooh! [CHUCKLE] And now, do you eat the coconut crab?**

No, not on that island. They're protected over there.

**Okay; good, because they've been eating rat poison. [CHUCKLE]**

Yeah. Well, it would go through their systems, and then it would be rendered.

**And, would it be out?**

Yeah.

**Okay.**

It would be no problem.

**I think a conventional route for somebody of your background, after getting your PhD, would have been to apply for tenure track at the University and study, and publish, and that would be your life. Why not do that?**

Well, there's still time to do that, right? I mean, after I was hired at the Bishop Museum, that was a soft money thing. It was a finite project, and so it was over in about a year's time. And so, at the end of that, the Bishop Museum was kind of like scrambling to figure out how are we gonna keep Sam on, on the staff here. And I was attending a conservation conference, and someone tapped me on the shoulder and said, How would you like to be ecologist for the Nature Conservancy of Hawaii? And I thought to myself just at that moment, Well, mm, I could spend one to three years with an NGO, and then go back to the University of Hawaii. I had already applied for and gotten funding for a post-doc position in the Entomology Department at UH, so I was already thinking, Yeah, that's where I'm gonna wind up. But taking on that position at the Conservancy meant that I had to give up that post-doc. We put out an ad in Science, the journal, and asked to find someone willing to take on that post-doc, to continue the study of Happy Face Spiders. And Rosie Gillespie came over and took on that thing, and now she has emerged as one of the leading spider biologists in the Hawaiian Islands. So, it's great that my need to leave that allowed for someone else to come in and carry that on.

**There's something to be said for sticking with it and growing with it.**

Yeah. Certainly with an organization as flexible as the Conservancy, that values the talents of their employees and tries to maximize whatever abilities that they may have. So, I've always appreciated that. It'll probably keep me with the Conservancy until I retire from that. And then, maybe I'll consider [CHUCKLE] a position at the University of Hawaii.

**Then somebody will tap you on the shoulder or send you something in the mail, and off you'll go again.**



Off I'll go again. But, I don't look forward to that anytime soon.

**In the meantime, thank you, Dr. Sam Gon, for sharing your long story short with us. And, thank you for watching and supporting PBS Hawaii. I'm Leslie Wilcox. A hui hou kakou.**

For audio and written transcripts of this program, and all episode of Long Story Short with Leslie Wilcox, visit [pbshawaii.org](http://pbshawaii.org).

**You've won an award for this website, which you do for fun.**

Yeah.

**And you have a Trilobite of the Month.**

That's right. Trilobites are fascinating to me because they are the most diverse completely extinct animal. When you think about fossils, you think about dinosaurs, and there might be two hundred fifty, two hundred seventy different described species of dinosaurs. There are over twenty thousand described species of trilobites, everything from tiny, little, minute things that you can barely see, all the way up to a huge trilobite that's nearly a meter wide.

**So, the fossil record is terrific, then?**

The fossil record, because they lasted for over five hundred million years ago to three hundred million years ago, they have a two-hundred-million-year span.

They're found on all continents, new ones found every single year.

**Thus, every month, another trilobite of the month.**

You could do that for a thousand years, and not run out of trilobites to do, right?