



MEMORANDUM

Date: August 7, 2017

To: The Honorable Chair and Members
Pima County Board of Supervisors

From: C.H. Huckelberry
County Administrator

A handwritten signature in black ink, appearing to be "CHH", is written over the printed name "C.H. Huckelberry".

Re: **Article in *The Atlantic* Regarding Pima County Archeological Project**

The attached article highlights discussion with the backhoe operator who worked with the County archeologists who discovered ancient footprints in mud banks at the Sunset Road extension project.

These archeological activities have documented some of the earliest known agrarian agricultural principles, which were used some 3,000 years ago.

CHH/mjk

Attachment

c: Linda Mayro, Director, Sustainability and Conservation

The Atlantic

How a Backhoe Operator Found 3,000-Year-Old Footprints in Arizona

An “artist with a backhoe” details the tricks of his trade.



Dan Arnit pointing out the footprints that he first found when excavating with a backhoe

Courtesy of Doug Gann / Archaeology Southwest

SARAH ZHANG

AUG 3, 2017

SCIENCE

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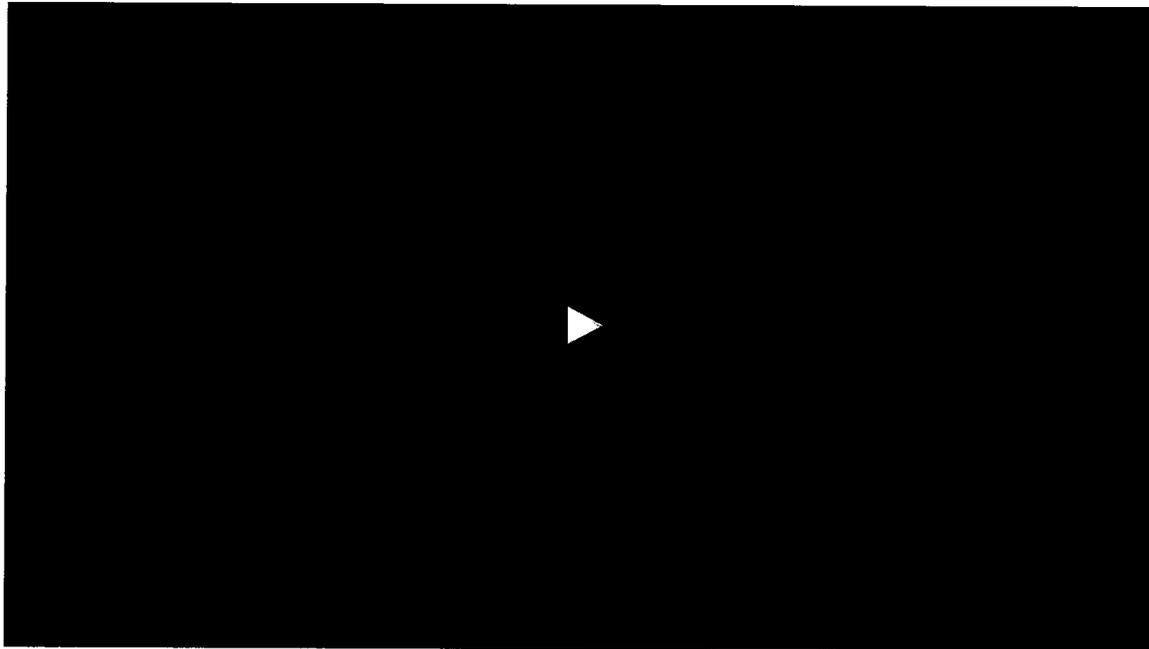
Not long after Dan Arnit made the biggest archaeological find of his career, he had to go build a parking lot.

The news of his discovery—3,000-year-old footprints made by a family walking through ancient fields—had made it up the chain at the Pima County government in Arizona, which wanted to show off the oldest footprints ever found in the Southwest. But the archaeological site was a mess. Arnit was his team’s backhoe operator when he found the footprints, so he and his tractor got a new job: Build a parking lot for hundreds of eager visitors.

Arnit doesn’t usually build parking lots anymore. He specializes in the delicate work of using heavy machinery to dig trenches at archaeological sites. With custom equipment made in his own machine shop, Arnit can shave off as little as one millimeter of dirt at a time with a backhoe. “He is by far the most knowledgeable operator I know,” said Mary Prasciunas, an archaeologist at Pima Community College. Prasciunas has worked with Arnit on digs throughout Arizona as well as a mammoth site in Wyoming. Archaeologists frequently rely on heavy machine operators like Arnit—“artists with a backhoe,” as one archaeologist called them—to dig delicately but quickly through the earth.

Arnit has been excavating for 34 years now, and he has his own archaeology-excavating company. I talked to him about what it’s like to be a backhoe operator on archaeology digs. A condensed and edited transcript of our conversation follows.

Sarah Zhang: According to YouTube, you can write your name with a sharpie and a backhoe.



Dan Arnit: That was downtown. I was moving a cemetery with an archaeologist and osteologist. Because we were working so close to each other, I'd pluck a trowel out of someone's back pocket with the backhoe and stuff like that, just messing with them. They said, "Can you write your name with that." I said, "I have no idea."

So the last day of the project, they came out with a box and a Sharpie and said, "All right, write your name." And then like a smart-ass, I said, "Do you want this in cursive?" So I tried cursive. I had no idea I could do that.

Zhang: How did you get into the business of operating backhoes on archaeology sites?

Arnit: I first started working for a plumbing company and that's the very first time I started learning the backhoe. Then Bob Foote of Foote Excavating, he hired me away from the plumbing company. He saw me working and he came up in his backhoe and said, "Hey, how much you're making? I'll give you three dollars an hour more if you come with me." I was like, "Yeah, see ya."

I went to work for Bob. and Bob was doing archaeology excavating with the University of Arizona. When Bob sent me out and said, “Here go dig on an archaeology site,” I'm like, “Why are we digging this with a backhoe?” I didn't understand until I got there. I got to know everybody. I bought all of the books. I asked questions. I was basically enrolled in school at that point, and I'm still in school, as far as I'm concerned. I didn't go to college. Everything I know is pretty much self-taught.

“It's like pages of a book. If I do it right, it's one page after another, and you don't lose any of the story.”

Zhang: What exactly do you do on a dig?

Arnit: I started doing trenching and stuff. At first, all we did if we wanted to find more was to put another trench in the ground until we almost wiped out the entire site. So I came up with the blade for skimming the surface like a wood plane, taking it down until you hit the top of the feature. You're not digging through it and destroying part of it. I can take off one millimeter at a time.

If you take off too much dirt at once, it's like pages of a book. If I do it right, it's one page after another, and you don't lose any of the story. But if you take too much, you're ripping four or five pages out of the book and now there's a gap. And you're going to get the whole story if you keep doing it. It's not that I dig that slow. It's just I know when to speed up and when to slow down.

Zhang: At this point you were making your own blade, right? How did you learn to do everything?

Arnit: My father was an inventor. He was a mechanical engineer. My brother was an inventor, and it just runs in the family. I did a lot of taking stuff apart and pissing off Mom and Dad. I knew what I needed. And then I just used parts. I'm using a grader blade that's off a road grader and then I fabricated it to the bucket.



Dan Arnit with his tractor at a site (Courtesy of Dan Arnit)

Zhang: You talk about “reading the soil” when you’re digging. What do you look for when you’re sitting up in the tractor?

Arnit: Every time you blade, especially if the soil is a little moist, you get this incredible picture. It's like wood grain. You can see lines, and you can see some patterns. That's what I do. It's like planing the ground and being able to see every minute thing that's taken place. Rodent holes, tree holes, tree berms, you name it. You can see it when you're diving down. One of

the problems I have is that the more stuff I discover, the more archaeologists, certain ones, have an issue with it.

Zhang: Why's that?

Arnit: Well because, I'm on the machine, and I made the discovery, not them. It's just a few of them it rubs wrong. I see things that nobody sees and it drives them nuts. I can see tremendously delicate color changes. It's only because I've done it for so many years, and I'm dedicated to it.

“Man, I tell you, I started laughing and crying at the same time.”

Zhang: What's the most exciting site you've worked on?

Arnit: The footprints! I've always, always, always thought, one day, I'd find a footprint. Somebody had to have stepped in the mud, but they always ended up being rodent holes.

When I was trawling this silky sediment off of this harder surface, I came across what I thought was a rodent hole. So I got out and just cleaned it off with a brush and noticed, it looks kind of like a foot. Then I cleaned up one end of it and it dropped into a heel cup. Then I got pretty excited. I got to the bridge of the foot, and then my hair started standing up on the end of my arms, and I kept excavating down into the toes.

Man, I tell you, I started laughing and crying at the same time. I was literally standing up, turning circles because I just didn't know what do. I had my phone in my hand, and I was trying to call, but I didn't know who. I was just so excited. I've never had that feeling ever in my life.

To me, it was like scratching off the last number and you just won a million bucks. To me, that's just my million bucks. It was absolutely amazing.

Zhang: Was there anyone else around when you made that discovery?

Arnit: No, well, I don't care if they see me cry. I put this huge mound of dirt and leveled it off and put a fence around it so people can walk up and look down onto the site. I would be down there talking to them and explaining. When I was telling them about that part, because it was so new, I would get choked up at that point. And then you just hear people go, "Uhhhh." Wish I didn't do this, cry like that, but it's a happy cry. Bringing those footprints back to the sun.

We had one set of footprints, where there was a bigger man, and he came from the west. We had these government trackers, military guys, that did tracking like in Kuwait. And they came and looked at the footprints, and they were just going crazy over this one area.

They said, "C'mon, I'll just show you this." They said this guy was walking and then he stopped, and he brought his foot up, and then they go, "See the heel slide? What this guy did, he was walking, and he stopped, and he looked over his right shoulder. that's very typical of somebody that stopped and looked." Just stand there and look to your right, and your right heel slides over a little. "Just imagine, right now, we know a man was standing here 3,500 years ago and looked over his right." That was very surreal.

ABOUT THE AUTHOR



SARAH ZHANG is a staff writer at *The Atlantic*.

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