

“Talk at Ten”
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MARK: This is Marfa Public Radio’s “Talk at Ten” program. I’m Mark Glover. Our guest today is John Seebach, a Project Archaeologist at the Center for Big Bend Studies. He’s a Ph.D. candidate in anthropology with an emphasis in archaeology at SMU. John, good morning.

JOHN: Good morning. How are you?

MARK: Good. Evidence continues to build that the first Homo sapiens in the Americas migrated here from Asia. The question is: Did they come by foot across the land bridge that existed then where today we find the Bering Straits or did they come by boat? Boat technology—how far along were they at that time and what do you think overall about the concept of land versus sea?

JOHN: That’s the million dollar question. We know that humans were using boat technology pretty early on in the prehistoric record. We don’t really have a good date for it, primarily because boats don’t survive. Archaeologists are limited, generally, to what gets preserved in the archaeological record, and boats tend to be of perishable materials—wood, skin, things like this. And so, especially as we move further and further along in the prehistoric period—further back, you know, thousands of years—there’s very little chance that those things are actually going to be in the ground for archaeologists to dig up. That said, we know that in the Arctic boat technology, maritime technology was a factor of life. And I think it’s very possible that the earliest humans, whom we term Paleoindians, first came into America via a maritime or a coastal migration route. There’s also evidence for a land route. But, perhaps given the radiocarbon record, which I’m sure we’ll talk about in just a few minutes, I think probably the coastal route is looking more and more like the way they did it. That said, again, you know, there’s very little evidence—hard, empirical evidence—for that. We’re basically inferring migratory routes from radiocarbon dates.

MARK: Now, the boat theory—was this some sort of—I mean, was it like, “Hey, Igor, come, we go discover continent; get in boat; come, everybody.” Was it something like that? I mean, was it as Tom Haynes, the border journalist, mentioned a couple of weeks ago on this program—was there an epic migration point?

JOHN: I think it’s actually a misnomer to think it was an epic migration, or a directed migration, I should say. It’s probably not the case that these people knew they were colonizing a brand new continent, that they knew they were coming into an area that did not have any standing human populations in it. I think they were just living their lives day to day to day, whether by land or by sea. Considering that these people would have been moving to more and more fertile hunting grounds, as previously-occupied locales started to be hunted out, they would move further and further along. And eventually they

just ended up here. You have to consider that the environmental gradation across the Bering Strait or even along the coastal route would have been very, very gradual. They wouldn't have seen anything entirely different until reaching maybe the southern coast of Alaska or British Columbia where you start getting some forested areas and things like that, which would have been somewhat different from the Beringean environment at the time.

MARK: So we're talking 15,000 years ago or close to it?

JOHN: Yes. This happened during the height of the last Ice Age, which we know was about 18,000 years ago. The earliest evidence we have for humans in North America is not until 11,500 years ago. That's radiocarbon years, but 11,500. So we have about 7,000 years of time in between the height of the Ice Age and the first human populations here in North America. In South America we have a slightly earlier site, which is why it sort of sent all of our theories about how this place was colonized into disequilibrium.

MARK: So, 11,000 years ago. Now, the Aleutian Islands at that time were a solid land mass?

JOHN: —was a solid land mass, yes. Miles across. It would have just been, essentially, an extension of the peninsula and Alaska at the time.

MARK: And, if I remember correctly, there was a part of the Ice Age, actually a channel that was not frozen and that's where they theoretically could have walked across.

JOHN: Yes. You're referring to what we call the Ice Free Corridor. And essentially what that was, essentially an ice free corridor, literally, between a glacier that was on the Rockies and Cascade Mountains, and the Ice Free Corridor separated one that was in midwestern and eastern United States. As the glaciers started to melt after 18,000 years ago, those two large glaciers that had covered the northern part of the North American continent for quite some time started to separate, creating essentially a channel through which humans potentially could migrate down. The question becomes: If there were standing human populations in Alaska and British Columbia at the time, or on the northern Canadian plains, at what point after this corridor opens up is it going to become biotically viable for humans to pass through? Are they going to have food to eat; are they going to be able to make fires and things like this, as soon as this corridor opens? Probably not. You're probably going to have to wait for the para-glacial environment, for the ground to thaw and for plants and animals to start moving into the area.

MARK: How far—I mean, did the Ice Age glaciers come down to the Big Bend?

JOHN: No, they didn't come down that far. There were small, sort of cirques glaciers, in the Guadalupes, possibly the Davis Mountains. But the large, contiguous glaciers that characterized the northern part of the continent—those came as far south as maybe Iowa at their highest extent.

MARK: Now, getting back to the boat technology. We know that Thor Heyerdahl—I think in the '70s—took a reed constructed raft and went from Peru to Australia to prove that it could be done. I mean, he was absolutely—had a little bit of fresh water and some fishing lines, but that's it. That's about 7,000 miles, I think.

JOHN: Yeah, it is, actually. It was in 1947; before coming in I looked it up. He left on April 28th of 1947. He left the coast of Peru on a raft made of indigenous balsa logs. He tried to create his raft to the specifications that were noted by Spanish conquistadors as belonging to indigenous Peruvians or prehistoric Peruvians at the time. So he took off. And 101 days later he crashed on an atoll just off the coast of Tahiti, near Tahiti. He showed that it could be done. There could be a trans-Pacific migration using very, very simple raft technology.

MARK: The bogs—one of my favorite poets, Irish-American Seamus Heaney, wrote a series of bog poems. And what fired him to write these things was some of the human remains found in the Irish bogs. Now, you mentioned the other day that there are bogs in Chile where there may be some human artifacts and even some pieces of bows or sterns or paddles.

JOHN: No, not necessarily boating technology. There is a bog in southern Chile, a sort of swampy area, and that held the site of Monte Verde, which is currently the earliest dated site in the Western hemisphere. It dates approximately 1,000 years earlier than anything in North America. And this is at the southern tip of Chile. But because of the preservation at the site, which is a bog and has various anaerobic sedimentary layers there, innumerable perishable artifacts were preserved at this site, including what we would think of as the foundations of an apartment complex. You know, just sort of square housing laid out in very regular grid patterns. Slabs of mastodon meat were preserved there. There were various medicinal herbs found in one single hut, so they think that there was sort of a medicine man or a shaman or a medicine woman of some kind who lived in this one hut and was able to administer medicines to the population. Perhaps the strangest thing about Monte Verde is that it does seem that the population was resident. They were living there for some time and not moving around very much, which is very different from what we think of in the earliest phases of North American prehistory where people were hunter-gatherers, moving around following game, moving from water source to water source, these kinds of things.

MARK: So Monte Verde is about 1,000 years older than Clovis, which I think is sort of a North American standard for ancient Homo sapien civilization?

JOHN: Yes. Clovis is the earliest thing that we have in North America and, generally speaking, it dates from 11,700 to 10,900 radiocarbon years. So far there's been nothing that is scientifically accepted that dates earlier than Clovis. There are various contenders across the United States, notably in Pennsylvania and there's a couple in Virginia that purport to be earlier than Clovis. But so far, the scientific community has been fairly intransigent in accepting those as real archaeological phenomena.

MARK: Clovis—the Homo sapiens back then were a lot like us; they were biped, they were—

JOHN: Absolutely. They were fully modern humans.

MARK: --smoked Marlboros—

JOHN: They probably did smoke tobacco but Marlboros, I don't know, that might have come later.

MARK: Now, if Monte Verde and Chile is older than Clovis, it would seem like they're either really fast walkers or they did coast down the coast in a boat.

JOHN: Absolutely. Monte Verde is a gigantic piece of evidence for a coastal migration, sort of an indirect fashion. Considering if you came by land, coming through the Ice Free Corridor even during the height of the Ice Age where sort of environmental patterns or weather patterns were not as different from season to season, there was a more equable environment—even still, can you imagine the diversity in biomes that you would have to pass through in order to get to southern Chile? You'd not only have to go through the plains of North America, you'd come down through Texas, the Big Bend area possibly or central Texas, the Hill Country, these kinds of things—from thence into tamaulipan thornscrub of Northern Mexico or the Chihuahuan Desert of northern Mexico, from there into the valley of Mexico, the jungles of Central America, all the way down to Chile, including skirting the slopes of the Andes. This would have been quite an adventure for humans and it would be very difficult for humans to sort of understand and be able to live in these environments and yet move so quickly down to southern Chile. So, it seems that if they were coming down by coast where the environments don't change so much, once you know how to hunt sea mammals, you know how to hunt sea mammals. Once you can get your coastal birds, you can get coastal birds. Egg hatcheries, all these sorts of things, would be similar all the way down to Chile. And you'd also be able to move a little bit faster coming by boat. You wouldn't be held up trying to figure out is that snake over there going to kill me or is it going to be something I can catch and eat.

MARK: So now, do we have another theory that I heard about recently which, based on artifacts found, I believe in the Hill Country, that the tools used by this ancient civilization were very similar to tools used by the Europeans 27,000 years ago—

JOHN: Uh-huh.

MARK: —and that perhaps the migration came from Europe rather than Asia. What do you think about that?

JOHN: That's a new theory that's come down the pike, as it were, in the last ten years or so. And it basically states that hunter-gatherers in Iberia and the north of France would switch to a maritime economy from land-based hunting and gathering, were pressed into a maritime economy. And from thence left in boats skirting the North Atlantic, the pack

ice of the North Atlantic, and eventually came down into what is now what we call North America. There are several problems with this theory. It is not widely accepted; in fact, it is generally discounted by archaeologists at large for two reasons. That's a really long way to come in a boat and to have enough fresh water and to be able to make a living in open water like that would have been very, very difficult to do.

MARK: Coasting in the North Atlantic—

JOHN: No. Following pack ice would be the only way. And while there are some areas of pack ice that would be a good place to be as a hunter-gatherer if you were able to get sea mammals and walrus and birds and these sorts of things, it might be feasible. But perhaps the most damning piece of evidence is that the people in Europe at the time—we call them Solutrean people—the latest dates of Solutrean is 16,500. Those are the absolute latest dates that we have over to North America. And the earliest dates that we have for Clovis are 11,500. So, there's a 5,000-year difference between what's happening in Europe and what's happening in North America. Yet the archaeologists that are floating this theory say that the tool technologies between what we know of as Clovis tools and what we know of as Solutrean tools are very nearly sort of genetically related, that the technology is almost the same. And that's not exactly the case either. But there are various superficial similarities between some of the Solutrean tools and the Clovis tools, which is why that theory has sort of come about. It's actually sort of a resurgence of a much, much older theory that was discounted then and is being discounted now.

MARK: And we have DNA evidence that some of the Paleoindians hold DNA from Mongolia—

JOHN: From Asia, yeah, from Northeast Asia and Mongolia. A lot of the genetic markers show that Native Americans did indeed migrate from an area in Northern Asia, Northeastern Asia. I think that there's very little evidence to suggest that they did not come from Asia. It's pretty solid.

MARK: Moving back to the Big Bend, your thesis for Ph.D. at SMU is all about the Big Bend—

JOHN: Yes.

MARK: —and how Paleoindians interfaced with our region.

JOHN: Right. Yes, my dissertation does concern the earliest occupation in the Big Bend and I'm looking at people that were here between about 10,800 to about 8,000 years ago— so, a 2,800, 3,000 year period in there. The major thrust of what I'm trying to do out here is, historically what we think of as Paleoindian adaptations—how we think these people lived—the models that we have were built from sites found on the Great Plains. On the Great Plains, perhaps the resource that is most indicative, or most iconic, of the Great Plains is the bison and other forms of large game. And so, when

Paleoindians were inhabiting the Great Plains, they were hunting bison. And there's no question that that is the case. They were primarily what we call big game hunters. But archaeologists have generally taken that what we see on the Great Plains and have said, in all times and in all places with very little perturbation, Paleoindians were big game hunters no matter where they were. And so down here obviously the environment is completely unlike the Great Plains and would have been back in the time when these people were running around the landscape. And so I'm trying to figure out what these people were doing when they were here and if they were acting like what we think they act like when they're on the Great Plains. And, frankly, it's difficult to discern what they were doing out here. The Great Plains is marked by a number of really, really good archaeological sites—nicely buried, great radiocarbon records, all kinds of things. Out here we have very, very few—well, we have almost zero radiocarbon dates. I think there are four that date to the Paleoindian period, and only one of those is directly associated with archaeological material. So, what we're faced with out here is looking at collections of their tools that are found on the surface, and they might be found on the surface next to other tools that may date to 8,000, 10,000 years later. So I'm trying to piece together what people were doing from a very, very sparse record. In all, I have about—oh, I forget what the last count is—I think I have 442 Paleoindian tools that have been found across the Big Bend. And, in comparison to some of the other areas that we know Paleoindians inhabited, that's a really sparse record. Which is telling us something, actually. It's saying they weren't discarding their tools when they were here, they weren't losing their tools in the same rates that they were in other areas. It might mean that populations were a lot smaller here, or it might mean that they were acting or behaving completely differently than what we think they were acting in other areas. Because there is no evidence for big game in the Big Bend proper 10,000 years ago. They may not have been hunting big game. We do have evidence of Pleistocene mega fauna or these Ice Age mammals that we think of now and these sorts of things. We do have evidence that Ice Age fauna were here—big fauna, mammoth, horse, some camel, a couple of species of antelope, these kinds of things were definitely here. Up in the Guadalupe we have the giant ground sloths that were running around up there. So we know they were here. But we have never found any of those remains in good association with archaeological or with human tools. So, once here, we don't know what they were doing. I have an idea. My idea is they were here because of—well, obviously you look around and see nothing but mountains. These mountains hold a lot of stone—good stone for making tools. And I think they might have been down here during off times of the year, times when they weren't hunting full time. And were out here replenishing their toolkits, their bags of tools, with Big Bend stone. And then, once done with that, going back out on the Plains and doing some hunting.

MARK: Big Bend stone meaning some of the chert we have out here?

JOHN: Chert, jaspers. We have some very finely grained igneous rocks here that we know hunter-gatherers used out here for millennia. The novaculite quarries near Marathon are very popular. And a major, major quarry in Big Bend National Park that we call Burro Mesa Chert was used for millennia easily. So, we know that there are good stone sources that hunter-gatherers had mapped onto. They knew they were here and they

were using them. This sort of hypothesis of mine is easily testable. We can go to sites outside of the Big Bend and sort of look at the proportion of Big Bend stone in some of these collections. And if you do so, it does seem that they were leaving here and going towards the El Paso area, migrating via the Rio Grande Valley and not heading straight back out on the Plains.

MARK: When we talk about tools, we're talking arrow heads?

JOHN: Basically arrow heads, yes. Arrowheads, by and large for the Paleoindian period— we call them projectile points or spear points— are the only things that are immediately diagnostic of that time period. You can see one of these points and say immediately, oh yeah, that's a Paleoindian point, there's no question about it at all. There are several other tools that when you find them in context with other Paleoindian tools, you know that they're part of the toolkit—this hide scraper, some blades, and these very large knives that we think were being used for filleting meat. But again, if you found something like that just out on the surface, you wouldn't immediately know that that's a Paleoindian tool.

MARK: Part of the archaeological problem is finding the tools in the context of where they were used?

JOHN: Absolutely. Context is everything to an archaeologist. You can find any number of tools anywhere but sort of documenting exactly where they were found in relation to other tools, whether on the surface or buried, can tell you a lot about how people were acting on that site, how they used that site. Particularly in buried sites, but also in surface sites, you know, trying to look at the spatial relationship between artifacts, between campfires, these sorts of things, between animal bones, looking at all these relationships can tell you what was going on at that site.

MARK: Your wife, Michelle Rich, is also an archaeologist and working in the jungles of Guatemala. This question might be better asked of her, but what about the Mayan cultures that consumed their forests—their culture somewhere along the line disappeared. As I understand it, they burned a lot of lumber to make their cement. So they in fact just clear-cutted their lands and suddenly they were without fuel.

JOHN: That does seem to be the case. This question would be better asked of Michelle certainly. From what I know, yes, that is indeed true. They did cut down a lot of the rain forest and did it for a variety of reasons—for building, for burning, to make lime, these sorts of things. And whether or not that was a primary mover in the collapse of Maya civilization, I don't think that can be said. I think there were a lot of different factors that went into that collapse. Now, it's very important that—there's a sort of mythology that goes along with this, that the Maya disappeared. They didn't disappear; their society reorganized. There are Maya still alive today in Mexico, Guatemala, all throughout Central America—modern Maya. They didn't go anywhere. They just started—they didn't live in those huge cities anymore. But it's an interesting question. Going back to Paleoindian time periods. There's always been the thought that maybe Paleoindians

came in here and hunted the mammoth and the bison and Pleistocene mega fauna to extinction. That humans have such a profound effect on the environment, that these voracious hunters were coming in here and killing these animals until they were literally wiped off the face of the planet. I think that gives a power to small bands of hunter-gatherers that I don't think they actually held. I don't believe this to be the case. If you look at all the Paleoindian sites across North America, there are a grand total of 14 that actually have good evidence for the primary killing of these large creatures, of mammoth in particular. I'm talking about Clovis and mammoth interaction. So it doesn't seem that Clovis people were maniacally hunting these elephants until they were dead. It's very difficult to say what kind of effects hunter-gatherers had on the environment. Now, going back to the Maya, they had a much more profound effect, absolutely because they were clear cutting, but whether or not hunter-gatherer bands would do the same thing is up for debate.

MARK: We're running out of time, John. But Tom Michael, the General Manager, wants to know where the buried treasure is.

JOHN: (Laughing.) Well, if he pays me enough, I'll tell him; I'll take him right to it.

MARK: Draw a map for him—

JOHN: Yeah, exactly.

MARK: Well, that's our guest today, John Seebach, Project Archaeologist at the Center for Big Bend Studies. Thanks, John.

JOHN: Thank you.

MARK: And that's today's program. I'm Mark Glover.