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# WHAT'S FOR DINNER TONIGHT?

Evidence of Early Agriculture:  
The First Farmers

1200L



A HISTORIAN'S JOURNAL ENTRY / BY ANITA RAVI

So far, we've learned that agriculture, as the seventh threshold, came about as a result of the sharing of ideas between humans living in increasingly dense populations.



BIG HISTORY PROJECT



In the Unit 7 video *Why Was Agriculture So Important*, David Christian argues that climate change made agriculture possible and overpopulation made it necessary. What he means is that when the last ice age ended about 12,000 years ago, the climate became warmer, wetter, and more stable. This meant that humans could actually plant something, stick around for the harvest, and replant for the following year. More stable food sources meant people could stay put and have more babies, mainly because they didn't have to lug them around from place to place anymore. Larger families meant there were more mouths to feed, or "overpopulation" as Christian put it. So humans experimented with various forms of agriculture to grow their food and feed their families.

But how do we know about what humans were doing 12,000 years ago, or even 8,000 years ago? What are the sources of evidence people have used over the years to figure all of this out? And how has our understanding of our earliest farming ancestors changed over time?

The only written records from this early period are a few cave paintings in a handful of places around the world (South Africa, Central America, India). Evidence of what people ate is mostly perishable, meaning it dissolves over time and leaves almost nothing behind. Yet, archaeologists have been persistent in locating and excavating (digging up) sites around the world to literally unearth evidence of how these early farmers lived. How did they know where to dig? And how confident should I be about their claims? Well, according to Susan Douglass, historian and senior researcher at the Ali Vural Ak Center for Global Islamic Studies at George Mason University, there are four factors archaeologists use to determine where to dig:

- **People have dug there before.** Archaeologists and historians look for evidence that unearths itself. For example, contractors might accidentally find an old burial ground or a set of ancient pottery while building a new housing complex. Therefore, it's likely that continued digging at that site and sites nearby will uncover more evidence of early human life.
- **The climate and social conditions make discovery of a site very likely.** Very wet places promote decay, while very dry places are more likely to preserve artifacts. It helps if that very dry place is also not in a war zone. It's hard to create an archaeological dig in the middle of a country at war.
- **Available financial and human resources.** You can't conduct a dig without the funds and the people to do it. Raising that money means archaeologists have to go around convincing funders that a particular project will actually lead to discoveries.

- **Cultural preferences for studying sites in one part of the world over another.**

Throughout modern history, cultures and nations have competed with each other over who is more "civilized." Unfortunately, finding evidence of early human life in one region or another feeds this type of cultural superiority.

Why do I mention these four factors? This is because I have to keep these factors in mind when looking at the current archaeological evidence of early human farming. What we know now will most likely change over time as one or more of the factors above change over time. Also, what we know now is based on our current level of technology and the amount of time and money available to investigate sites. Let's look at archaeological evidence from three different sites around the world and see what the evidence tells us about early farming in those places.

#### RICE FARMING IN BAN-PO-TS'UN, EAST ASIA

I learned that one of the earliest farming sites in East Asia is Ban-po-ts'un, also called Banpo (pronounced baan-paw). It is located in northern China near the medieval city of Xi'an in Shaanxi province. The site is from the Neolithic period, or New Stone Age, and was first settled about 6,000 years ago.



Decorative pottery from Ban-po-ts'un shows evidence of a fishing culture.

Archaeologists have found several types of evidence that show us the features of this early farming site. In the 1950s, Chinese archaeologists discovered large quantities of pottery — over 500,000 pieces. Among these samples were basic pieces of pottery made from red clay that were probably used for daily cooking. These archaeologists also found decorated pottery, an example of which can be seen in the image on the previous page.

This piece of pottery features designs that show evidence of a fishing culture. The large symbol in the middle may represent the people in the community who created this pot. The fish on either side of the symbol and the two larger fish below the symbol tell me that fish supported the community and were valued as a food source. Archaeologists also found evidence of a large settlement of houses enclosed by a moat at this site. It is possible that these fish lived in the moat. If so, the Banpo had to create the right conditions for fish to live and flourish in this water, which means they engineered a habitat to breed fish. Archaeologists also found six kilns in the settlement, which were used to make this pottery. They also found farming tools such as stone hoes, spades, knives, and mortars and pestles. These tools all provide evidence that the Banpo were early farmers who harvested and then ground their food sources.

About 20 years ago, a new technology was developed by archaeobotanists (archaeologists who specialize in ancient plants) that helped them locate evidence of rice and millet cultivation in this area of China. This new technology, called the flotation method, used water to separate grains of rice and millet out of soil samples taken in and around Banpo. The grains that had been burned by fire floated to the top. In 2002, archaeobotanists near Banpo used this technique to excavate 106 different types of rice and millet. The fact that there were so many different varieties of these grains tells me that the Banpo farmers spent time experimenting with different kinds of grains, probably trying to figure out which type produced the best crops. It also tells me that rice and millet were important staples of the Banpo diet. This new evidence proves that full dry-land agriculture was well established in northern China by 6000 BCE. This is also an example of how new technologies allow us to revisit ancient sites and learn more about the people who lived there.

### SQUASH AND CORN CULTIVATION IN OAXACA, MEXICO

The peoples of Mesoamerica took a much longer time to adapt to farming than the peoples of East Asia, the Middle East, and North Africa. How do we know this? Excavations at the Guilá Naquitz Cave Group in what is now Oaxaca, Mexico, tell us that these people began cultivating plants while still living a semi-nomadic lifestyle.

Naquitz is a cave almost 200 meters (about 656 feet) above sea level overlooking the Oaxaca Valley of Mexico in North America. Two rivers, the upper Rio Atoyac and the Rio Salado, flow through the valley. While evidence suggests that people did indeed live inside the cave, the lands surrounding the cave are where these early farmers experimented with agriculture.

Archaeologists have uncovered evidence that the people of Guilá Naquitz grew squash about 9,000 years ago. Scholars used their current knowledge of plants native to Mexico, combined with data gathered from radiocarbon dating, to determine that these gourds, *Curcubita pepo*, were grown for their protein-rich seeds. Here's a picture of one of the squash seeds they discovered in the cave:



Squash seed from the Guilá Naquitz cave.

This squash is the same species as the modern pumpkin and the summer squash. How do we know this? Scientists can compare the cell structure of the ancient seeds to squash grown today and see how the structures are similar or different. Within the last 15 years, archaeologists also found evidence that the people of Guilá Naquitz may have been the first to domesticate teosinte, which is the ancestor of maize. Prior to this discovery, most scholars believed that maize cultivation first began in Tehuacán, an area about 30 miles north of Mexico City, about 7,000 years ago. The Naquitz cave site provided evidence of people living there over a span of about 2,000 years, starting about 9,000 years ago. There is also evidence inside the cave of areas where butchering, food processing, cooking, and toolmaking took place. The skins of the squash were found intact, suggesting that the Naquitz people used them as containers.

Like the Banpo, the people of Guilá Naquitz experimented with different types of farming. How do we know? Different types of seeds were found in the cave, and some of these seeds (in their modern form) grow in wet conditions while some grow better in drier soil. By understanding and planning for variations in rainfall, these early farmers were able to decide which seeds to cultivate so that they would have a stable crop each season. So I am starting to see a pattern here: Although the pace of agricultural development was different in Mexico than it was in China, farmers in both locations experimented with different types of seeds and grains to figure out how to grow the best crops for their local climates.

### EEL FARMING BY THE GUNDITJMARA OF AUSTRALIA

What I'm learning so far is that early farmers were incredibly resourceful: they built kilns to make fancy pots, they lived in caves but still planted cornfields, and they harvested eels. Until I came across this evidence, I don't think I would have put the words "eel" and "farming" together in the same sentence. Farming in Aboriginal Australia started very early and looked a lot different than it did in China or Mexico. Through the investigations of archaeologist Dr. Heather Builtth, we learned that about 8,000 years ago, Aboriginal Australians (the Gunditjmara people) from the Lake Condah region in southeastern Australia farmed an area almost 100 square kilometers (more than 24,000 acres), not with plants, but eels. They created artificial ponds from the natural wetlands, and then created canals to connect these ponds to the natural water source. They then built stone fish traps to take advantage of the migration cycles of the eels. The traps looked like this:



Eel trap from Lake Condah area.

The number of eel traps found by Builtth and her crew tells us that the the Gunditjmara would have been able to feed more than 10,000 people with the eels they farmed. They also discovered burnt, hollowed-out trees, located right next to the eel traps. These burnt-out tree stumps, they think, served as smokehouses to preserve the freshly caught eel. This method of preserving such a huge number of eels led Builtth to believe that the people of Gunditjmara must have been trading them for another resource.

With the discovery of ancient farming techniques also comes the discovery of settlements. The Gunditjmara built stone huts, evidence that they were a sedentary people. Previous experts had dismissed the rock formations as being random; but Dr. Builtth used careful measurement and statistical analysis to show that the rock formations were not natural and that they were, in fact, the foundations for stone huts.

### CONCLUSION OR "SO WHAT?"

What can I conclude from these three cases? After reviewing this evidence and the claims made by archaeologists around the world, I can conclude with some confidence the following things:

1. Archaeologists and other scientists have used artifacts they've found as evidence to give logical accounts of how people lived and farmed 9,000 to 6,000 years ago.
2. These scientists have created new technologies to gather this evidence and support their claims.
3. As a result, we now know with some confidence that people all around the globe were developing new ways to put food on the table for their growing, sedentary populations.

As for me, I can now claim, because I have seen some evidence, that our early ancestors in many parts of the world:

1. were quite intelligent;
2. were willing and able to experiment with different plants;
3. invented new technologies and tools to increase their ability to produce food and goods;
4. and could pass on what they learned to others, and hence increase collective learning.

## Working Bibliography & Notes

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Courtesy of The Gallery Collection/  
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*This short journal entry is an example  
of how historians go about exploring  
important questions and looking at new  
information. They use a mixture of  
historical documents and the writings of  
other historians to inform their thinking.  
All sources are listed in the working  
bibliography.*