



When someone mentions archaeology, I don't really think that most people truly understand the field.

The details in the work done, the discoveries and their consequences likely go over the heads of people who simply hear archaeology and think Indiana Jones or some other related sensationalist topic, like King Tut's tomb. They may consider them to be the epitome of the work done and think that the job is spent chasing down stolen priceless artifacts or unearthing groundbreaking discoveries on a daily basis.

This is rarely the case and paints an extremely inaccurate picture of archaeology to the general public. Every discovery, whether it is an extremely rich grave, or the remains of a poor house has some form of importance, even to a lay audience. And when a discovery is in fact rich in its contents as well as in its value, there is a process to

excavate it. No archaeologist would follow in Indiana Jones' footsteps, no matter how important [museums](#) are.

To understand archaeology, you can't rely on its portrayal in popular culture, but instead you should attempt to look at an excavation or two on something that interests you. This could be anything from a location that you like or something that links to your culture. Really look at the methods, the purpose of the dig, its findings and see for yourself what the discipline holds. For me, that one excavation is the Uluburun shipwreck.

I know that I just said that most archaeology isn't focused on shiny things, and it isn't, but the Uluburun shipwreck is in fact one richest, meaning most valuable, assemblages of Bronze Age trade goods ever found. But, it isn't the riches that interest me (too much), but rather what the ship's contents could mean in the larger context of the Late Bronze Age (approx. 1,550-1,200 BCE) world.



Map of the surrounding area and the wreck site

So what is the Uluburun Shipwreck?

Located six miles southeast of the Turkish city of Kas and roughly 60-70m off the shore of Uluburun, or the “Grand Cape”, the [Uluburun shipwreck](#) was discovered in 1982 by a local diver and it has been approximately dated to the 14th century BCE. The purpose of the ship’s journey is unknown, but it’s largely thought to have been an elite or rich merchant ship that set sail from the Levant (Eastern Mediterranean/Western Asia) and was sailing for a port in the Aegean Sea, which is located between modern day Turkey and Greece.

As I stated beforehand, this wreck is actually quite rich and holds the single largest deposit of Bronze Age metal ingots. These ingots were the main cargo of the ship and took up 11 of the assumed 20 tons of space available. 10 of these 11 tons were copper ingots, with the other ton being tin. The majority of the copper ingots (317 of 348) were shaped in the typical way, having a protrusion at each corner, which is called an oxhide shape. The rest were unique, having only two protrusions.



Picture of a diver with an oxhide metal ingot

The tin was similarly shaped, but was cut up into quadrants, which shows that it was likely not obtained directly from the source, but rather through trade, something that is immensely important for the implications of this site. It’s assumed to have been sourced

from trade based on the shape as they weren't full ingots, which is what usually comes straight from the source. The importance or even presence of this trade has not always been noted archaeologically.

Of course, there were other goods on the ship, and opulent ones as well. However, considering that most of the cargo was these ingots, I'd rather use them as evidence that in archaeology, it's not just finding the objects, but rather researching them, interpreting them and putting them into the larger context of the world at the time that is also extremely important. Also, doing so would show why this knowledge is valuable to you as well, and not just the invested archaeologists and other people in the field.

People with a vague interest in archaeology or even those who don't even care could learn a lot, not only about history, but also about what they think about humanity's past.

What are the implications of these discoveries?

To put this site into perspective, these ingots alone could have created eleven metric tons of the highest quality bronze, if one follows the typical recipe of nine parts copper and one part tin. This could have outfitted up to 5,000 Bronze Age soldiers. While this may seem a small number to you now, especially in the context of the wars that have been fought in the recent past, consider that these people were fighting up close and that a force of this size would have almost certainly been a sizable army. This example of what this cargo could have been used for begs the question how impactful was the sinking of this ship. Did it upset the power balance? Or possibly the elite economy?

Aside from what the metal potentially could have been used for, what is extremely interesting to myself, and I hope to you all, is where that metal came from. I think that most people, when they think of this time period, they think of grand battles, large empires, or they might not even know much about the Bronze Age at all. What you may not know is that people, and larger communities, were much more connected to each other than you may have thought. I don't think this pops into people's minds when they get asked about this period of history, in fact I wouldn't be surprised if the movie [300](#) is what they think of, regardless of the vast difference in time between the wreck and the movie setting.

However, that's a central part of the Uluburun excavation, as the contents show a vast array of places of origin, ranging from Cypriot (From Cyprus) wares, Canaanite jars, Egyptian jewelry, and wider African objects. One of the Egyptian objects, a gold scarab, even mentions Nefertiti, a 14th century BCE queen, which one way that this wreck has been dated. The fact that these objects are from all over the Mediterranean world shows a vast level of trade that non-archaeologists probably wouldn't be aware of and is something that should be remedied as we should always strive to be as accurate as possible in our understanding of the past and its intricacies.

You may have noticed that I haven't mentioned the metal ingots as a part of the discussion surrounding trade. That's because, to me at least, they may be the most intriguing objects found. Why? Simply because they present a unique window into how

various levels of society may have communicated and traded with each other on a level that was previously unknown.

To understand why this is the case, you have to understand that tin was an extremely rare, but highly prized resource. Copper was less so, but still important because as I previously mentioned, they were both needed to make bronze. So since tin was so rare, people went to great lengths to find it and gather large amounts of it.

This is why the tin is so interesting, as when you start to consider things like its origin, who mined it, and who traded it, you gain a better understanding on trade relations in this time.

Compared to the copper, the tin from the wreck was sourced from a wide geographic region. The copper likely came from northwestern Cyprus, but the tin has a more complex story. Originally, it was believed to be from the general area of the Middle East and Near Asia, with further testing narrowing that down to the Taurus Mountains in Turkey and some sources in Central Asia.



A map outlining the Taurus Mountains with Cyprus to the South

A new [study](#) has narrowed this down even further, not only getting the exact mines for the source in Central Asia, but also providing insight into the trade relationship between the miners and the people who bought the tin. The way that these researchers figured this out was through lead and tin isotope analysis to match the tin to the source mine.



A map showing Central Asia, with Uzbekistan and Tajikistan in the south

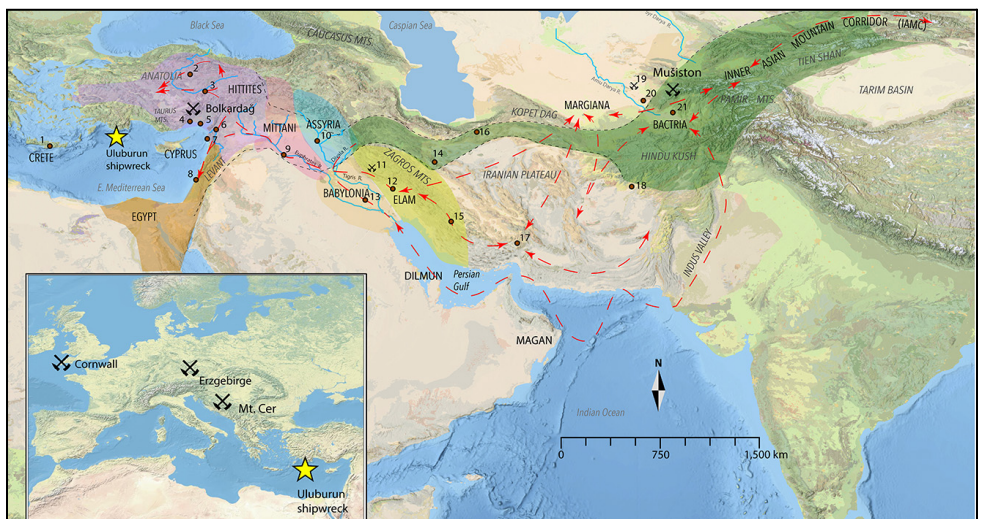
Lead isotopic analysis is a method in which archaeologists use trace isotopes, which are a different form of an element, in this case lead, to compare the excavated metal to source deposits and attempt to match them to determine provenance (their place of origin). You can find a good article on its methods and uses [here](#). This same process was done with tin as well, as previous studies had already done lead-isotopic analysis, but the inclusion of tin isotope in the research allowed for a more accurate result.

The [conclusions](#) of this research showed that more than 65% of the tin come from the Taurus mountains, which would imply a much larger industry for tin under the Hittites, the ruling empire, in Anatolia than previously thought. Additionally, it narrowed down the

other source of tin to Tajikistan and Uzbekistan, even proposing the exact mine the tin came from: Mušiston, Tajikistan. Now, why was this important?

This shows that there had to have been a complex network of trade between the larger empires and the mobile pastoralists and small scale villages that was used frequently in this period. In fact, it is stated in the study that the workers that mined the tin would have only lived and worked at the mine seasonally, with the actual tin trading taking place by means of local networks of resource exchanging. Interestingly, there is evidence that Indian Ocean trade routes lessened in use in this period and that land routes were favored. The

proposed route from the Mušiston mine to the Mediterranean would have been 2,000 miles over rough terrain and adds another layer of complexity to the trade process.



A map showing the proposed trade routes (Map from Michael Frachetti)

All of this underlines to archaeologists that there was a socially and culturally diverse connection between various groups of people that managed to facilitate something not dissimilar to global trade in the modern world.

To put this into perspective for you all, the fact that such large empires sourced their tin from this far away is comparable, as one of the researchers said, to the United States sourcing all of their energy from small oil rigs in Kansas. Essentially, they're saying that this was an improbable outcome, as such a rural and distant area wasn't thought to have had such a substantial connection to the wider Mediterranean world.

Why should this be important to you?

Perhaps now you understand my fascination with this wreck and the research surrounding it. The idea there was such interconnectedness in this period astounded me when I first read this research and I hope that my presentation of it was at least interesting to you.

Now, you may be saying something along the lines of 'Well this is cool and all, but why should I care? It doesn't seem like it matters to anyone that isn't an archaeologist'. To answer your very pertinent question, I'd like for you to consider the issues that we've had in the recent years with the global supply chain. [Covid](#) wreaked havoc on the entire world and we're now seeing how integral supply chains, especially those that deal with food, can be with the war Russia is waging in Ukraine, both in conflict and for the rest of the [world](#). Even a simple [ship](#) running aground in a canal froze upwards of ten billion USD in a single day. Now within that frame of mind, just think about what this discovery means in terms of supply and trade in the Late Bronze Age. Perhaps an empire or city was depending on that copper and tin so that they could outfit an army, or maybe consider how much a person's life would depend on the trade of these goods and how it

could have changed due to the ship sinking. Or even think about how there could even be parallels between empires relying on those who some may consider to be less civilized for their raw materials and what modern global corporations do today with their exploitation of third world countries.

Looking at this discovery in that frame of mind allows you to see its importance. It demonstrates that the world might not have been as different back then as we thought it was. Granted, the technology is vastly different, but the culture and methods that have been shown through the analysis of this site, specifically the tin ingots, show that perhaps the modern world has more in common with the ancient world than we thought. That's what I would hope that you take away from this. *That no matter how modern we may appear to be, some things never really change and we can look not only to the present, but also to the past to learn about them.*