THE BRONZE AGE COLLAPSE - Curated Transcript of BBC In Our Time podcast
https://www.bbc.co.uk/programmes/b07fl5bh
Last on Thu 16 Jun 2016 21:30 BBC Radio 4

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In Our Time is hosted by Melvyn Bragg. Melvyn's guests on this podcast are:

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[Melvyn Bragg]
Hello. In the 12th century BC, there was a dramatic change in the kingdoms and empires of the Mediterranean. A series of events known as the Bronze Age collapse. Over the course of perhaps 50 years, the great palaces of the Mycenaeans became ruins. The Hittite empire of Anatolia broke into pieces. The mysterious sea peoples attacked Egypt. Literacy disappeared from Greece. As the Iron Age arrived, a web of trade routes across the region fell apart. Once new rulers emerged, their kingdoms were much smaller. What exactly happened in the 12th century, and perhaps more importantly, why that happened, and who won, as well as who lost, is a matter of a debate informed by the texts that remain and new archeological discoveries. With me

to discuss the Bronze Age collapse is John Bennet, Director of the British School at Athens and professor of Eugene Archeology at the University of Sheffield, Linda Hulin, Research Officer at the Oxford Center for Maritime Archaeology at the University of Oxford and Simon Stoddart, Reader in Pre-History at the University of Cambridge.

John Bennet, what do historians mean by the term the Bronze Age?

[John Bennet] Well, the Bronze Age, it's important to remember, is our term for this period. And it's part of a sequence of Stone Age, Bronze Age and Iron Age, which was essentially developed in a prehistoric environment, an environment without texts. It was developed at the early part of the 19th century by Christian Thomsen, who was director of the Danish National Museum, to bring order, chronological order, to the finds from prehistoric Scandinavia. And the sequence implies a development where stone was the prime material, followed by a period in which bronze was a prime material and iron took over. And that brought chronology to a period that didn't have historical documents, to an area that had historical documents. That was then generalized to many other parts of the world. But one of the consequences of that is that the Bronze Age doesn't happen at the same time in every part of the world. So in the part of the world that we're particularly interested in, the Bronze Age ends around about 1200 or 1100 BC but it starts quite a long time before that.

[Melvyn Bragg] How long?

[John Bennet] In Greece we would talk about something that just before 3000 BC. So we have about a 2000 year Bronze Age, as it were.

[Melvyn Bragg] But is it different in, say, the Hittite kingdom?

[John Bennet] Not in the Hittite kingdom and in places like the Hittite kingdom, in Egypt and so on, there is a historical chronology which, if you like, sort of supersedes the need for an archeological, material-based chronology.

[Melvyn Bragg] But we're loosely, we're generally going to be talking about the great East Mediterranean powers. So let's stack it there for this conversation. When did it get going there?

[John Bennet] We're really talking about the second millennium and particularly about the period from about 1500 to 1200. When that was the period of the greatest interaction between those major powers. The Hittites, as you've mentioned, in Anatolia; the Egyptians in the southern Mediterranean. And, of course, the friction between those two powers in the 14th and 13th centuries, which took place along the coast of the Levant, modern-day Syria, Lebanon, Israel and so on.

[Melvyn Bragg] You have the Mycenaeans and the Babylonians.

[John Bennet] On the western fringes, you have the Mycenaeans in the Aegean world and the Babylonians a bit further east. Yeah.

[Melvyn Bragg] Was there anything that we could say characterize these kingdoms? Characterize all of them? We can bring them together.

[John Bennet] Well, I think you've used the word kingdoms. They're not democracies, that's for sure. And in the case of the Hittites, it's a multilingual formation, so it is properly called an empire. It fragmented and came together a little bit in the second millennium. And of course, at the end of the period we're talking about, it fragmented into multiple different forms. Egypt was more uniform in the sense that it was ethnically and linguistically more uniform. So not formally an empire, but Egypt expanded into the eastern Mediterranean, to bring in non-Egyptian speakers and speakers of other languages as well.

[Melvyn Bragg] Did they feel part of a group? Did they interrelate with trade in a way that made them interdependent and aware that each other's safety was important?

[John Bennet] The textual evidence we have, particularly in the Amarna letters, which belong to the 14th century BC, indicates a clear understanding - a language, if you like, of diplomacy, of trade at the highest level. And the shared material culture which the Mycenians, to some extent, to the west, participated in without being reflected textually in those accounts, shows that they were using the same kinds of values - metals like bronze obviously, gold, but materials like ivory, blue glass and so on.

[Melvyn Bragg] Are we talking about four or five kingdoms of about the same power? They're large kingdoms, aren't they? Can you give us some idea of the size of these kingdoms? Are they roughly the same, except Egypt, of course, which is massive?

[John Bennet] Well, Egypt is massive, but it's a long, thin tube going south, well down into Africa. The Hittite Empire, I suppose, is certainly one of the largest. I mean, it comprises most of modern Turkey and into northern Syria. Now. The Aegean world is a bit smaller and certainly not unified, at least in my view anyway, multiple kingdoms there. So we are talking about some variation in size. The Hittites and Egyptians and the Babylonians to the east and the Assyrians coming on a bit later and larger.

[Melvyn Bragg] Simon Stoddart what was the status of bronze as a commodity in the 12th century?

[Simon Stoddart] Bronze brought new properties, skills and opportunities, and these interacted to give value to this particular commodity. One very important skill was finding the ores. Whereas in previous periods you went to one source, here you had to bring two sources together and then have the knowledge to transform the copper and the tin by smelting them, working with them. And then the second situation was you had to melt them together in a very precise alloy. And there's this control, almost scientific control, without the science that we have today, that is an essential element of the value of this commodity. And another very important property was that bronze could be recycled. So there is a balance in terms of this commodity. On the one hand, it is being used and being placed in the ground, sometimes deliberately, to offer opportunities to people to display themselves. On the other hand, you are finding new resources. And this sets up the whole situation of trade, which will be a major flavor of our later conversation.

[Melvyn Bragg] Where did the tin and copper come from?

[Simon Stoddart] It depends where you are situated.

[Melvyn Bragg] Well, we are in the eastern Mediterranean, loosely.

[Simon Stoddart] In the eastern Mediterranean, one key area was Cyprus for the copper. Afghanistan, I believe, for the tin from the east. But then we should look at this in a much broader spectrum. We should not just look at what I describe as a little local difficulty in the eastern Mediterranean and look at it in the Eurasian perspective, because further west, the response to the so called collapse of these kingdoms was not uniformly felt. So we must bring into the equation the trade that goes as far as Cornwall, Sardinia and also central Italy, bringing together these component parts, using new-born skills to put together a new material which has these qualities of display and also, as we will describe later, potential for military prowess as well.

...

[Melvyn Bragg] You said it was highly skilled bringing these two copper and tin together to turn into bronze. What level of skill can you tell the listeners was employed?

[Simon Stoddart] Well, clearly, they didn't have scientific laboratories. Therefore it had to be done by proxy approaches of color, smell, even taste -- observing the color of the ores as you found them, and also observing the color of the smelting operations so that you knew precisely how much oxygen, how much different ingredients you put together to get the precise outcome. Because if you got the inclusion of an alloy wrong by a few percent, it wouldn't have the qualities that you're looking for. In other words, copper was the dominant 90% plus, whereas some tin was in a smaller proportion.

[Melvyn Bragg] So is this trial and error? Were there any manuscripts or anything remaining saying, this is how you do it? Or was it trial and error on the job?

[Simon Stoddart] The great problem is that we don't see the evidence, of the trial and error, so we see the successes and therefore it's really the outcome. The final product that we see when they've actually perfected the system, by the time we are talking about, which is broadly 1200 BC, this was a very successful operation.

[Melvyn Bragg] What difference did it make to the societies that had bronze?

[Simon Stoddart] It gave them opportunities for exchange on not absolutely new opportunities. They built out of the Neolithic and the Copper Age that preceded it. But this lifted it to another level and made interaction a very powerful theme within Europe.

[Melvyn Bragg] Linda Hulin, how intimately was bronze tied up with power?

[Linda Hulin] Oh, very intimately. If you are a pharaoh or a Hittite king, you have basically two jobs in life. One is to be splendid and to channel wonderful things throughout your empire and by your allies. And you do that by giving money to temples, endowing temples, have fabulous palaces, having a big countrywide building program and having the ability to build fortifications. And the other is having an army to

protect your territories so that you can get the stuff that you get through trade. And for those you need bronze. You need bronze for chisels, you need bronze for cutting stone, you need bronze for your weapons. So it fuels building projects, it fuels the arms that enable you to stay a military power.

[Melvyn Bragg] What was bronze supplanting?

[Linda Hulin] Well, copper and stone. And stone is used. Stone arrowheads continue for some time. Copper is, in general, too soft. The Egyptians were at quite a disadvantage when they entered the Levant. They didn't have composite bows, they didn't have chariots. They imported all this technology. And some of this was to do with the new fighting techniques that required swords as well, and different kinds of swords.

[Melvyn Bragg] But bronze meant that on the whole; you're saying that if you had bronze, you are more powerful. And you went for bronze to make yourself more powerful, so the trade increased.

[Linda Hulin] Yes, it enables you to inhabit territories, which means you can control the trade within those territories.

[Melvyn Bragg] Can you give us some idea of the web of trade in this part of the Mediterranean, from Cyprus to the eastern and around there? What's going on there? Obviously, there's going to be copper and tin, but there's oil, I presume. Can you give us some idea of the intensity?

[Linda Hulin] Yes, and we have a good idea from the Amarna letters and other texts which show ...

[Melvyn Bragg] ...Can you say exactly what [the Amarna letters] were?

[Linda Hulin] Okay, the Amarna Letters is an archive from the Egyptian capital under Akhenaten. And it's copies of correspondence sent to the king by vassals and by the other great powers. And in that we get...

[Melvyn Bragg] In what century?

[Linda Hulin] Mid 14th century. And they are discussing what they term gift exchange, but it's really exchange. And so there will be requests for gold, which is regarded as like dust in Egypt. And they mentioned all the good things. So they mentioned gold, they mentioned silver, they mentioned fine vessels, they mentioned cloth, many things that we actually don't recover archeologically, but archaeologically we have Mycenaean and Cypriote pottery spread all around the region. We have jars of oil, Canaanite jars moving out from the Levant, and we have shipwrecks. And shipwrecks give us a very precise window. So there is a shipwreck at Uluburun around 1300 that sank off the coast of southern Turkey. And this was a large ship for the day, about 15 and a half meters. And it carried ten tons of copper, one ton of tin, which is the precise ratio to make bronze. It also carried TerraVinth oil, wine, some pottery as well, lots of gold and silver scrap, hippo ivory, elephant ivory, things that would be sent probably to the Mycenaean world for making into these fine furnitures and impressive things that would be used and spread around again as part of a gift exchange.

[Melvyn Bragg] Was this trade specifically pursued? Do they raid each other's ships?

[Linda Hulin] Well, the Amarna letters and other letters do set up a framework of law. So we do get "if the donkey trains carrying tripped in from Afghanistan through Syria to Agarit", for instance..

[Melvyn Bragg] Its a romantic image, isn't it? I don't know why a donkey image is romantic...

[Linda Hulin] "If they're attacked, who pays? If your ship is attacked by pirates, who pays? If your ship is delayed in port, who pays?" So when they're not exchanging gifts and marriage contracts, a lot of the correspondence is to do with who is responsible for any kind of pirate activity or attacks by people on land. And so the idea is to try and smooth the wheels of trade. '

[Melvyn Bragg] Nothing much has changed, really, in a way, the complications of ownership and how you lay claim to the property you think you have is already an issue.

[Linda Hulin] Yes. And the fact that they all write in Akkadian, including the Egyptians....

[Melvyn Bragg] Akkadian being a diplomatic language of the time,

[Linda Hulin] It's a diplomatic language of the time. It's a club that they enter.

[Melvyn Bragg] John Bennet, let's talk about this collapse. Let's use the word collapse at the moment. What collapsed in the 12th century?

[John Bennet] Well, one can describe it in terms of political collapse, which in the sense that the Hittite Empire fragmented.

[Melvyn Bragg] Why? Do we know why?

[John Bennet] We don't know why exactly. Egypt seems to have retrenched, and one can correlate that retrenchment with the appearance of the sea peoples in certain Egyptian texts, whether we want to link them directly as a cause. But that seems to be part of that phenomenon.

[Melvyn Bragg] Sea people being, as it were, wandering marauders almost?

[John Bennet] As presented. What we talked about are texts that were inscribed on a temple, a mortuary temple, Medinet Habu of Ramses III, which describe these events both visually and in text. But one would have to say this is propaganda, so it's not in the interests of the text to minimize, if you like, the threat of these people and so on.

[Melvyn Bragg] But there were these people, they were going from place to place and having, in some cases, a destructive effect

[John Bennet] Yes, and there are other references and other texts from elsewhere to them.

[Melvyn Bragg] So that's one thing. What else?

[John Bennet] And then, I was going to say, that in describing it one can describe, if you like, what happened on the ground. And in the case of the Mycenaean world, we have a wave of destruction at the Mycenean palace centers, which center around about 1200 BC.

[Melvyn Bragg] Can we date those? We can date those fairly precisely? What sort of destruction were they?

[John Bennet] We're talking about in the case of 1200 burnt destructions, where we preserve them. In the case of Pylos, for example, the whole palace was burned quite intensively. The olive oil that was there added to the burning. And fortunately, in the case of Pylos, this preserved a set of texts, about 1000 texts in the Greek language, but the script called Linear B. It doesn't refer to marauders, unfortunately, but those were preserved by those burnt destructions. Before that, there may have been a wave of earthquake destructions around about 1250 BC.

[Melvyn Bragg] There *might* have been?

[John Bennet] Identifying it definitively as an earthquake destruction is quite difficult archeologically, but shifting walls and sometimes we get skeletons preserved suggests that the earlier destructions in the 13th century, about 1250 at Mycenae and Tiryns in particular, which are very close together, may have been earthquake destruction.

[Melvyn Bragg] So you're talking about and there are several other things, a lot of things coming together, but the effect is these great palace kingdoms were under threat, being burnt, destroyed, demolished, one way or another?

[John Bennet] Yes.

[Melvyn Bragg] All of them?

[John Bennet] As far as we can tell, all of them. Some parts of the Aegean in the northwest Peloponnese, for example, in the period following, don't seem to have a population decline in the sense that sites continue in relatively large numbers. The region around Pilas, for example, in southwestern Peloponnese, I'm just referring to, seems to be almost deserted for a couple of centuries after this. So there are differential effects some places may have, if you like, not exactly benefited, but not suffered to the same degree. But generally speaking, if you take a step backwards, it's a very broad wave of destruction.

[Melvyn Bragg] Can you develop that, Simon Stoddart? What sort of changes are occurring in Europe around this time? We still don't know about 12th century BC. Although one of your colleagues says that everything really pivots on 1177 BC. Which is we might come to that. We can say that?

[Simon Stoddart] I think we can say that.

[Melvyn Bragg] One date, anyway, never mind. Useful, easy to remember, 1177. Now, what else is going on?

[Simon Stoddart] Further west the pattern is much more varied and there are certain areas like Sicily and particularly the site of Thapsos, which comes to an end at abroad at the same time. And there you have a lot of Mycenean pottery coming in and that comes, relatively speaking, rapidly to a halt. Southern Italy very broadly similar in terms of pattern.
Little Malta - it's a bit difficult to date it - but it seems to continue in its small, low key way. Further north, though, if you go towards central Italy, this seems to be a moment of growth. And so what you find in the interstices, as I like to call them, in other words, between other big places, opportunities are being taken. So there are points of growth which move on to the later phase after the collapse. And of course, that is what happens in central Italy. That is where the Etruscans and the Latins rise later and they rise out of - admittedly several centuries later - but they arise out of these opportunities that have been presented.

[Melvyn Bragg] Several centuries is quite a stretch. So we can talk comfortably talk about collapse before you rush to revival. Can't we really?

[Simon Stoddart] Well...

[Melvyn Bragg] Just a second. John gave us some of the what's being called the perfect storm. Did he miss anything? What about climate change?

[Simon Stoddart] Well, there is a date, 1150, which the Department in Belfast particularly emphasizes from tree ring data as a particular event. Now, it's very difficult to fix this absolutely because in order for a society to suffer from climate, it shouldn't just be one year. It needs to be a range of years. If you're in a vulnerable place like Malta, even one year may have an effect. But if you're in a more continental area or somewhere with a number of rival valleys, such as Greece, you may be able to simply borrow from your neighbors and deploy the crops in a different way. So the response is very varied according to the geography that we're dealing with, I think it's fair to say, subject to climatic change.

[Melvyn Bragg] Is there anything that is disrupting the trade? I suppose I'm looking for it's got a key cause, aren't I. What would you say could be called a couple or two or three of the key causes? Has anything been omitted by John in his summary?

[Simon Stoddart] Well, I think many of these societies had very difficult problems in passing on succession. Today we have institutions which are very very organized and legally framed, and successions in all sorts of different ways are very easily understood. But in these societies, particular in the west, where I'm talking about, there are often leveling mechanisms by which if someone got too powerful, they had to give a big feast, they had to bury a large amount of the bronze in either a horde (this is something that very much takes place in Northern Europe) or they had to put their materials into a burial. And so a lot of the aggrandizement was controlled by this process.

[Melvyn Bragg] I don't understand how you aggrandize yourself by burying your loot.

[Simon Stoddart] Well, this is the way by which one controls that aggrandizement. In other words, you are forced by the understandings of your society that it is not permitted to become too powerful. This is further west and further into temperate Europe. In other words, and there are good ethnographic accounts of this. The potlatch is one that's always referred to where you throw a big feast in order to bring you a lot of prestige in your lifetime and perhaps over a few months. But in terms of passing on that wealth to your successors, that is not allowed. And this leads to an instability in many of these societies or it can lead either to an instability or to a society which doesn't grow at the same rate that we see in the Aegean.

[Melvyn Bragg] Linda Hurin, there is still the troubling fact, as I think it is, that a lot of these things happened at around the same time to a lot of these kingdoms. I'm rather taken by the mysterious sea people who and partly that they are recorded by the Egyptians (whose task in life was to record everything that happened in the world) and what effect are they having? An effect is something underneath going on like the Goths in Rome? What's going on?

[Linda Hurin] Part of the problem in answering this is archaeological resolution, even with well-dated texts in that there seems to be an instability for about 50 or 60 years or maybe more. So what seems like an event gets magnified across the narrative. So, yes, Rameses III, in Medinet Habu, records a battle in year eight where he says there is an alliance, that the peoples of the north made an alliance against him, a confederacy, and he fought a sea battle. It was probably actually within the Nile delta itself on the Pulsiac branch, where he defeated an alliance of different people and he also defeated them on land. And the scary thing about the land lot was that the change there is that, for the first time, we see people. It's not just soldiers but carts with women and children. So these are people coming to settle. And so he has this narrative of a big battle and undoubtedly something like that happened. But if you examine his record, there are parts of it which are actually repeated from a first wave of what you might call sea peoples under Merneptah.

[Melvyn Bragg] Where are these people coming from? ...

[Linda Hurin] So he is taking parts of the narrative and adding to it. In fact, he only refers to two, the Tjeker and the Weshesh as being of the sea, and others are the Sherden, for instance, whom he mentions originally. When these people were identified, people scholars made very, very simplistic equations. So the "Sherden" kind of sounds like "Sardinia". The "Peleset" are the Philistines, and they probably are. So there were some very facile equations. But the Sherden first appear in the mid 14th century as mercenaries in Ugarit and they kick around in the Egyptian army. They fight on both sides in the Egyptian army. They're settled from Rameses II just before Merneptah. He settles veterans in a village and that settlement continues through to Rameses III. He's still taking tax from them. So these people are actually spread across some of them are causing trouble, others aren't. But in the battle with Rameses III, you do get some new people like the Peleset, the Tjeker and the Weshesh, who are never heard of before, and they make alliances and they probably are coming in from outside,

[Melvyn Bragg] So they're attacking from outside. Maybe a focus on this, John Bennet, would be to talk just about the Hittites. You have a great kingdom there, great buildings that disappeared, the Hittite palaces and so on. So do we know specifically, can you tell us specifically, what happened to the Hittites?

[John Bennet] Well, the central place, Hattusa, the capital of the Hittite empire was destroyed in the same period and we have actually wonderfully preserved grain stores there, which have been a godsend for archaeobotanists to understand Hittite farming practices, for example. But the Hittite empire had throughout - from the 15th century to the end, as it were - had always been trying to bring in bits that were trying to get away from it, particularly on the west. So there's an event with the Assuwa, there's the possibility that Millawanda, which many people have equated with Miletus on the west coast of Turkey, was taken over by Mycenean Greeks and then recaptured again by the Hittites and so on. So it was a core in central Anatolia of Hittite speakers and then a series of varyingly-tied polities around about. At the time of the collapse, we only know the name of last Hittite Empire emperor, who was called Suppiluliuma II.

[Melvyn Bragg] What were his dates?

[John Bennet] He started in 1207 and we don't know when he finished.

[Melvyn Bragg] Have you satisfied yourself that there are reasons which you can tell us all about why that particular great city, great kingdom disappeared?

[John Bennet] I can't, I'm afraid. It's part of the same phenomenon, it seems.

[Melvyn Bragg] We have an archeological black hole here?

[John Bennet] We have a textual black hole. And what happens is that this fragments into a series of what are called the Neo-Hittite kingdoms, which are essentially smaller-scale kingdoms using a particular script, hieroglyphic Hittite, which is actually a Luwian language that continue later on, and so on.

[Melvyn Bragg] Now Simon Stoddart, you can break cover. You admit destruction significant changes, but you question collapse.

[Simon Stoddart] I think it very much depends on where you're looking at again in the European sphere.

[Melvyn Bragg] Well, we'll stick to the bit that we have teased our listeners into - the eastern Mediterranean, Cyprus, run around Turkey and that lot, Egypt and so on. So we just stick there, it's enough. OK?

[Simon Stoddart] I think that there could easily be a switch in political organization which leads us to think it's collapse. And there are technical terms which have been used in archaeology. Hierarchy is very clear to understand with an apex, whereas heterarchy is a term that is much used in current parlance, which means that you have within a society competing groups, almost factions that are working together. So the archaeological record gives an impression of something radically different. And so it

may be a more pleasant way of living in some respects. And indeed, if I can give you, again, threaten you with a picture from the west a little bit, there are these societies which are held more in balance, where hierarchy is not imposed, and which continue their village life completely unaffected by this collapse at all. So there are some examples which I should also refer to, such as in the Terramare in northern Italy is a very interesting example because it lies north of this continued development of Etruria and Latium right from the Bronze Age. Etruria and Latium, which is where the Etruscans and the Latins start. It continues from the Bronze Age right into the Iron Age, so it has very deep-seated roots. It's not something that starts a few centuries later. But the Terramare beautifully contrasts with that at an earlier date. And I think this is the important point a lot. And we can look at Spain as well. Number of these collapses are not in sequence with what is happening in the eastern Mediterranean. So it's inherent in the communities themselves that they change their way of operating. They move from a more hierarchical way to a more competitive, internal way, if I can put it in those terms.

[Melvyn Bragg] Yeah, we've got that, and that's very well expressed. But we go back to the Hittites, the Macedonians sorry, the Myceneans, and the Babylonians and so on, that we've been talking about, and the [...] of Egypt. They are being attacked, destroyed, and ... collapsing isn't a bad word. And although things pop up again a few centuries later, there's a struggle. So there are exceptions, of course. Villages don't get taken up in the mainstream events. Communications were like that. And of course, there are exceptions, there always are, especially in times of poor communication. But wouldn't you agree? Well, I've ripped from all your notes that this could be called some kind of end of something or other, like the Late Bronze Age. Bronze Age comes to an end.

[Simon Stoddart] I can continue my slightly western-orientated polemic and point out that a lot of this evidence is textual. In other words, it is very much in the minds of the people who are on the losing end of this spectrum. They want to make a fuss because their economic system is falling apart. They're no longer in control.

[Melvyn Bragg] I'm going to go to Linda Hulin. Because you pointed to her, you run out of puff, you think she's going to back you up?

[Linda Hulin] I am going to back him up to a certain extent. Cyprus is an interesting case in point with this. Cyprus was the main engine of copper in the eastern Mediterranean, and the city of Enkomi, for instance, is more or less opposite Ugarit. And they clearly developed in tandem, swapping tin and copper with one another on the route east and west. They both suffer from pirates. At one point, the Hittites claim to invade Cyprus, although there's no real archaeological evidence for that. Ugarit is clearly destroyed.

[Melvyn Bragg] Ugarit's a very important trading port.

[Linda Hulin] It's a port. Yes. And it's the nexus of the land routes and the sea routes, moving copper and tin and other fine things. Now, the interesting thing about Cyprus is its geography. It has the central Troodos Massif and then squeezed around all of it in the middle are the copper bearing deposits. So although we don't know, the ancient term for Alashiya could mean the whole kingdom or it could just mean a few towns,

and we really don't know. It basically means that it was impossible for one city or one entity to control the copper trade because they all had access to it and they were all close to the sea. So at the end of this period, Cyprus reorganizes itself. Some of the countryside storage places disappear. But Enkomi after 1200 actually has its finest hour. It completely rebuilds itself on a new grid, uses lots of fancy ashlar masonry, invests in temples. It has some people that's new.

[Melvyn Bragg] John Bennet, is the idea of the Bronze Age collapse drifting away from us as we do this program? ... Is that what's happening?

[John Bennet] No, I think there is a phenomenon that happens in the eastern Mediterranean, which I think is probably best described as a political collapse. But as Linda says, we are victims of the fact that we have textual information for that and we very much want to read the text, very literally. So what I think we can say is that the trade evidence, both textual and archaeological, suggests that these entities, the Mycenaeans on the west and so on, were tightly bound up in a shared enterprise, and enterprise where value was very much shared across that. And so these commodities moving around were essential. What I think is beginning to happen as we approach 1200 is that the ability of the states to monopolize that trade when it happens, but certainly by 1200, is breaking down. And so we have people working under the radar, as it were. There's a little bit of evidence of this in the shipwrecks, where there's a shipwreck that dates about 1200, a century after the Uluburun wreck, whose cargo looks rather different from that of the Uluburun wreck. It doesn't look like the state-sponsored high level cargo.

[Melvyn Bragg] Now, Simon, the Bronze Age seeds, and of course it wasn't tomorrow morning, to the Iron Age and they overlap and that has a huge effect. What was it and was it destructive in certain parts of the Mediterranean?

[Simon Stoddart] The Iron Age brings, obviously, a new material to bear, but it doesn't happen rapidly. The early Iron Age involves very little iron and it's really only the end of the Iron Age that you get to use it efficiently.

[Melvyn Bragg] And what date are you talking about?

[Simon Stoddart] Well, the really effective use of iron isn't until the 3rd or 4th century BC, certainly in most of Europe, potentially little bit earlier in other areas, perhaps in Greece a little bit earlier. But the full Iron Age is a much later phenomenon. And indeed it is absolutely true that when this transition takes place, you see this very well in this country, there seems to be a drop in circulation of all metals at about 700 BC. So there is a form of decline. Maybe we could give it a term "collapse" in terms of trading enterprise at that time before it picks up again as the Iron Age, as a new commodity begins to take role, it's proper role, and bronze also takes a new role. Because bronze doesn't lose its role, it just shifts its position.

[Melvyn Bragg] It seems, Linda Hulin, that these great palace kingdoms do disappear and a few centuries later they're replaced by much smaller states. And then we have the great growth of the great Greek states and so on. So there's this gap in between on the map as well. The time scales I've got for you, 300 at least, maybe more years. What happens then in that time?

[Linda Hulin] In that time? We're sort of not sure. Yes, you can say there is this hinge and the states in the Near East or the eastern Mediterranean, that we knew of, disappear.

[Melvyn Bragg] And the Greek states have not appeared yet?

[Linda Hulin] And they have not yet appeared. Everything is on a much smaller scale, but trade does continue. John referred to the Point Iria shipwreck, which is Cypriot and Cretan commodities sailing towards Greece. So that kind of surplus and smaller people who know someone who knows someone who's got a boat and know where they can sell it, continues and provides a long term persistence, so that when in the Iron Age you get the spread of the Phoenicians right across the Mediterranean, when you get the Greeks spreading across the Mediterranean, they're doing it as smaller entities. It's not these enormous states that come together and organize huge donkey trains or huge ships like the Uluburun. So the hinge is moving towards more merchant driven trade on a smaller scale

[Melvyn Bragg] To take that on, John, is this gap, decline, collapse, whatever, is this the trigger for a new form of organization, for not so much a resurgence as a new invention of what these states, cities could be?

[John Bennet] Absolutely. I think one could argue that iron, which of course unlike copper and tin, is pretty much everywhere and so is readily accessible and so you don't have to build long distance trade routes to find it and so on. You can take a sort of broad view that undermines this ability to monopolize long distance trade and therefore smaller entities can get involved if you take the Aegean as a sort of barometer, Cyprus is very important in the Bronze Age for copper, but in the 12th century it's the origin of certain types of iron objects which come in as prestige objects into the Aegean. And in the opposite direction, you have a pottery coming in from Italy in the Aegean, so if you like, the Egyptian is drawing in from both ends because of a shift in the way the trade system is working.

[Melvyn Bragg] You've talked about progression, Simon, and I've teased you a bit about it, but is there any sense in which we can see that the Etruscans and the Greeks emerged from the Myceneans and the Hittites and so on, or let's start again.

[Simon Stoddart] I think all opportunities like this create new opportunities. In other words, if there is a collapse, there are people there who see yeah,

[Melvyn Bragg] But if it was new people doing what new people and doing what?

[Simon Stoddart] I think they have, they're not necessarily new people in a biological sense, but they were people who are new in their motivation, as indeed Linda has mentioned, people who are organized politically in a different way. And so you get the emergence of different types of political organizations. The polis in Greece, the small city state, which is mainly based on voting males, but still it has a democratic heart.

[Melvyn Bragg] Except for women and slaves.

[Simon Stoddart] Exactly, that's right. And then the Etruscians probably are a little bit more like what preceded. They are very rich plutocrats and they retain a family political organization within their midst, so they don't have the same corporate unity, perhaps, that Greece does. And they are, generally speaking, larger in scale than the average Greek city state, too. So there are various versions of what emerges. There isn't one rule. And the Latins, of course, the successful people had a different version which incorporated other peoples in the course of time.

[Melvyn Bragg] This is a very lumpy question, but we're near the end of the program, Linda. Is there a sense in which there were any way for the Greeks? Let's take the Greeks, and he's also a good to the Greeks, who will look across what they called the Dark Ages and say, well, we're not going to go like that because look what happened to them.

[Linda Hulin] I don't think there was that much of a cultural memory, but I think seafaring nations have an underlying persistence and knowledge that is independent of states. So I could bring the Phonecians in as well. They were famed for their fast ships. Yes, they suffered destructions at the end of the late Bronze Age and then they were hemmed in by Assyrian expansion. The only way to go was into the Mediterranean. But they were probably drawing upon sailors' knowledge of routes anyway. And of course, in the Mediterranean the winds and the currents are still the same, so they're going to broadly take you in the same framework. And all trade was personal, so you traded with people you knew and families you knew and you inherited those personal relationships across the generations. So that probably continued.

[Melvyn Bragg] John?

[John Bennet] I think there is a sense in which the Greeks of the 8th, 7th century BC were aware of their, as it were, Mycenean past, as we would call it. They call it their heroic past. We can see it in their Hormeric text, which remembers a time which clearly was what we would associate with the Mycenean period. It was a time in which it was recognized that things were greater than they are now. Yet, ironically, the construction that's based in the Homeric poems describes a world which looks much less impressive. It looks much more like the 8th century world. So there is that historical memory, I think. And of course, in the sequence, the other metallic sequence, as it were, in Hesiod, the gold, silver, bronze, ion ages of decline that he described in his poem, he has to insert the age of Heroes just following the Bronze Age before the Iron Age, because he knows historically, that that was a period that he has to take account of.

[Melvyn Bragg] And there may have been, I don't know, ruins enough remaining of magnificence remaining that made them think ...it's time to finish the program by the look of it... Okay.

And the In Our Time podcast gets some extra time now with a few minutes of bonus material from Melvin and his guests.

[Melvyn Bragg] I enjoyed that. You're on now. Hello out there. Yes, we're going to do the PS...

[Simon Stoddart] Well I do apologise for my polemic.

[Melvyn Bragg] You obviously had to get it in, so we had to maneover it...you bombed the program.

[John Bennet] To come back to something you were saying at the beginning about bronze as a transformational material, as it were. It does seem to have qualitatively changed the way in which people interacted across the entirety of Europe right into the Eastern Mediterranean. It's plentiful enough for it to be widely available, but it's rare enough to have to capture those roots and so on. So I think you have a real change as you come into the Bronze Age with things like amber, for example, moving from the Baltic down ultimately into the Aegean world and so on.

[Simon Stoddart] And I think one of the transformations is the way in which the body is presented. This is something my colleague Mary Louise Sorenson in Cambridge would really want to emphasize, that this gave new opportunities for presenting the body; not just men, but also women. And we always think of this as a very martial sort of sword-led experience. Indeed, the sword was a major invention of the Bronze Age.

[Melvyn Bragg] ...why didn't we say that? Blast!

[Simon Stoddart] I'm sorry.

[Linda Hulin] I mentioned it!

[Simon Stoddart] I think you did. The dagger, rapier sword sequence.

[John Bennet] We were focussing on the end.

[Simon Stoddart] Yes vaguely at the end. We didn't look at the full sequence. But the presentation of the body, I think there's a wonderful article by someone called Paul Trehern, which is absolutely beautiful. It describes the body beautiful. This is very masculine, in fact, and Mary Louise would want to add the feminine side to it. But that really shows the new potential, of this material. It's very sensual. It's almost a gold that is more widely distributed, in other words... and this is something you've made yourself so you have power over it in almost a magical, cosmological way. So I think these are elements that perhaps we should add to the equation

[Linda Hulin] But there are also very practical and utilitarian things. There's a site, Marsa Matruh, on the North African coast of Egypt which... There was a small island there where Mediterranean sailors would call in. And one of the things ...and in exchange for ostrich shells, one of the things they did..

[Melvyn Bragg] In exchange for what, sorry?

[Linda Hulin] In exchange for ostrich egg shells.

[Melvyn Bragg] Ostrich egg shells?

[Linda Hulin] Yes, which were exotic in the rest of the Mediterranean ...they would take small crucibles with them and make on the spot fish hooks, arrowheads, needles, things that the population there, and possibly the Egyptian garrison nearby, couldn't easily access. So the use of small crucibles was part of the armory of traders moving around the Mediterranean on ships saying "Well, we've got this small bit of bronze, what do you want made? We'll make it for you now."

[Melvyn Bragg] Right. So I like the thing, I mean, family firms talking to family firms over the centuries and over the sea. Yeah.

[Linda Hulin] What is interesting about the fall of Ugarit is that if it hadn't fallen we may still have ended up with the same kind of situation, because we can see in the texts, for instance, that one trader was exempted from tax on his goods coming back from Crete, which implies that everyone else was taxed, but he wasn't. We have other texts where the way the society was organized was that in return for land various people had to offer services, often military, but not always. And this is called pilku service. And towards the end of this period we start getting sales of land for which the pilku service is stripped away. This means that eventually you will end up with a class of people who have wealth that is independent of royal patronage similar to something that happened in Europe in the Middle Ages with the rise of the merchants. It got halted by these attacks, but the end result was the same that in the Iron Age we have merchant-led trade.

[Melvyn Bragg] One of the things that interested me about the bronze is that in one or two cases, of course it was thrashed very heavily in warfare, but bronze armor wasn't as good as beaten leather.

[Simon Stoddart] There's a very famous experiment which used to have a picture in our museum where John Coles, who was the Bronze Age specialist, paradoxically held the leather shield against the paleolithic archeologist who are holding the bronze and it's quite clear who won in this particular battle. And indeed...

[Melvyn Bragg] The leather shield won?

[Simon Stoddart] The leather shield won and indeed a lot of this armor is first shown on parade. It was not necessarily as effective as made out. It was to engage in psychological and one-up-man-ship.

[Melvyn Bragg] If they punished enough and stood facing the sun they could blind the enemy.

[Simon Stoddart] Exactly, that sort of effect...

In our time with Melvin Bragg is produced by Simon Tillotson.