

Birgitta Eder – Regine Pruzsinszky (eds.)  
Policies of Exchange  
Political Systems and Modes of Interaction  
in the Aegean and the Near East in the 2<sup>nd</sup> Millennium B.C.E.

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# **Policies of Exchange**

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in the Aegean and the Near East in the 2<sup>nd</sup> Millennium B.C.E.**

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# Preliminary Thoughts on Abundance vs. Scarcity in the Ancient World: Competition vs. Cooperation in Late Bronze Age Trade across the Aegean and Eastern Mediterranean

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*Eric H. Cline*

**Abstract:** In today's global economy, there are obviously numerous factors in play. Included among these are the spirit of competition vs. cooperation and the perception of abundance vs. scarcity, especially in terms of driving marketing and commerce. One may well ask if there were similar situations in the Late Bronze Age Aegean and Eastern Mediterranean worlds, i.e. whether the Egyptian, Levantine, and Cypriot commodities were being sent to the Aegean and the Mycenaean ceramics, oils, wine, and other goods were traveling across to the Eastern Mediterranean regions as part of a competitive market economy or in the spirit of cooperation; whether they were being sold and/or exchanged in an atmosphere of perceived abundance or scarcity? Similar questions have been asked of trade and exchange within the ancient Near East itself, but not necessarily of the trade flowing back and forth across the LBA Aegean and Mediterranean. The answer will depend of course, at least to a certain extent, on whether the ships making the voyages from the Eastern Mediterranean to the Aegean and back again were private merchants, royal ships, or some other combination, including perhaps vessels manned by international crews. However, the answer will also depend upon the specific communities receiving the imported objects. For example, was there a competition among Tiryns, Mycenae, Thebes, and Pylos for imported goods from Egypt and the Near East or was there a perception that there were enough such goods for everyone? Why does Mycenae have more Egyptian goods than any other major Mycenaean site? Why does Tiryns have more Cypriot goods? And why does Pylos have almost no imported Orientalia?

**Keywords:** Aegean, Eastern Mediterranean, Bronze Age, trade, contact, abundance, scarcity

In today's global economy, numerous factors are in play. These include the spirit of competition versus cooperation and the perception of abundance versus scarcity, especially in terms of factors that drive marketing and commerce. We may well ask if there were similar forces or factors present in the Late Bronze Age (LBA) Aegean and Eastern Mediterranean worlds. That is, were Egyptian, Levantine, and Cypriot commodities being sent to the Aegean, and were Mycenaean ceramics, oils, wine, and other goods traveling across to the Eastern Mediterranean regions, as part of a competitive market economy or in the spirit of cooperation? Were they being sold and/or exchanged in an atmosphere of perceived abundance or scarcity? And, if the atmosphere changed suddenly, for instance from real or perceived abundance to actual or perceived scarcity, such as towards the end of the Late Bronze Age, how might that have affected the ancient economy and individual cities or kingdoms in the Aegean or Eastern Mediterranean?

Similar questions have been asked concerning the trade and exchange *within* the Ancient Near East itself, for instance in Sabloff and Lamberg-Karlovsky's edited volume on *Ancient Civilization and Trade* (1975),<sup>1</sup> but have not often been asked of the trade flowing back and forth across the LBA Aegean and Mediterranean. The answers will depend, of course, at least to a certain extent, on whether the ships making the voyages from the Eastern Mediterranean to the Aegean and back again were private merchants, royal ships, or some other combination, including perhaps vessels manned by international crews or underwritten and sponsored by syndicates or consortiums rather than by individuals. We must be careful here, for we run the risk of anachronistically imposing our current biases and world-views back on the ancient world, but the Amarna letters from 14th century B.C.E Egypt might be of use, as will the Sinarānu text

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<sup>1</sup> Sabloff and Lamberg-Karlovsky 1975.

from 13th century B.C.E. Ugarit. These briefly document royal gift-giving on the one hand and the activities of a private merchant on the other.

However, the answers will also depend upon the specific communities receiving the imported objects, but even here we can ask numerous additional questions, although they might not be answerable. For instance, why does Mycenae have more Egyptian goods than any other major Mycenaean site? Why does Tiryns have more Cypriot goods? And why does Pylos have almost no imported Orientalia? Or did Pylos have such objects at one point, only to have them removed before the site was abandoned? And, of course, we might ask whether there was a difference, either perceived or real, between the goods received by the Minoans on Crete and by the Mycenaeanans on mainland Greece? These questions are all pieces of a larger issue: was there a competition among Tiryns, Mycenae, Thebes, and Pylos for imported goods from Egypt and the Near East or was there instead a perception that there were enough such goods for everyone? And, if there were such a perception, could it have changed over time, especially if the situation in the 14th century B.C.E. were different from that during the 12th century?

### **A brief recapitulation of the available archaeological data**

Before beginning to attempt an answer to some or all of these questions, we should pause for a moment to reconsider the available evidence, including the material data for imports in the LBA Aegean, which has been collected and published during the past two decades, primarily by myself and Jacke Phillips, as well as Connie Lambrou-Phillipson.<sup>2</sup> Much of this is by now well-known, but a brief recapitulation will be useful, especially since I am beginning to see now that some recent publications are busy utilizing those same objects to study hybridization processes, creolization, entanglement, transculturalism, object biographies, and all the other fashionable theoretical terms of the moment that have been borrowed from anthropology and other fields.<sup>3</sup>

We have certainly come a long way since the 1970s and early 1980s, when the arguments and scholars of the Bronze Age Aegean were concerned with the very basic question of whether trade and contact with Egypt and the Eastern Mediterranean had even taken place, for it was still not at all clear to many that it had. Fortunately, for the past twenty years or so, since at least the early 1990s, we have been in a position where we can all agree that such trade and contact did take place. We can now focus on asking more detailed and penetrating questions, ranging from economic to historical to literary considerations relating to such inter-relations.

Overall, we have just under 600 finished imports from Egypt and the Near East found in 14th–12th century B.C.E. contexts in the Aegean. We must always keep in mind, of course, that we are limited by what has actually been recovered through excavations to date, and that our facts and figures might change tomorrow if, for instance, another Uluburun ship comes to light. Back in 1947, Helene Kantor was quite correct in stating that: “the evidence preserved to us by the passage of time constitutes but a small fraction of that which must have once existed. Each imported vessel... represents scores of others that have perished.”<sup>4</sup>

We must also remember that, for the most part, we are excavating finished artifacts rather than the raw materials, for the latter have long since been transformed into worked goods such as bronze swords, ivory inlays, and gold jewelry. Apart from special instances, such as on the Uluburun shipwreck and in Late Minoan I contexts at Kato Zakros on Crete, we have not recovered much in the way of raw copper or tin ingots, unworked ivory tusks or incisors, or pieces of unworked silver or nuggets of gold at sites in the Aegean. We know, however, that most such materials had to have been imported, since they were not native to Greece and yet Mycenaean

<sup>2</sup> Lambrou-Phillipson 1990; Cline 1994; Phillips 2008.

<sup>3</sup> See especially the papers in the volume edited by Stockhammer 2012; also Voskos and Knapp 2008; Wengrow 2009; Hitchcock 2011; Maran 2011; Stockhammer 2011, 2012; Sherratt 2012.

<sup>4</sup> Kantor 1947, 73, cited in Cline 1994, 1.

and Minoan artifacts made of those materials have been recovered at Late Bronze Age sites throughout the Aegean.

Having said all that, what do we actually possess in terms of artifacts confirming the existence of ancient trade and relations between the Late Bronze Age Aegean and the Eastern Mediterranean? I noted back in 1994 that the data from the LH/LM IIIA–C periods (the 14th–12th centuries B.C.E.) in the Aegean represents the high point of the Bronze Age in terms of such exchanges. However, during that period, there was no clear domination of the trade routes to the Aegean by any one foreign power, for finished objects from Egypt, Syro-Palestine, and Cyprus are all found in approximately equal quantities, in terms of actual numbers of imports.<sup>5</sup> The principal destination at first seems to be Minoan Crete, at least for the 14th century (LH/LM IIIA period). However, the numbers of such imports found on Crete then decreases dramatically in the 13th century (LH/LM IIIB period), at the same time as the numbers of such imports found on mainland Greece increases just as dramatically, which I have seen as an indication that the Mycenaeans have taken over the trade routes to Egypt and the Near East by this point. The 12th century (LH/LM IIIC period) sees the Greek mainland remaining as the focal point for imports from the Eastern Mediterranean, at the expense of Crete which has essentially none from this period, but even here we see a drop off in the specific numbers, quite probably as a result of the troubles that beset the region towards the end of the Late Bronze Age.<sup>6</sup>

As just mentioned, we have a little less than 600 finished imports from Egypt and the Near East found in 14th–12th century B.C.E. contexts in the Aegean. Breaking this down further into specific numbers and places, we have 68 at Mycenae in LH IIIA–C contexts, including 24 from Egypt, 37 from Syro-Palestine, 4 from Cyprus, 1 from Anatolia, and 2 from Mesopotamia.<sup>7</sup> Similarly, we have 35 at LH IIIA–C Tiryns, including 1 from Egypt, 20 from Syro-Palestine, and 14 from Cyprus.<sup>8</sup> However, we have almost none from Pylos – two, to be precise: a Canaanite jar and an Egyptian bowl, both in LH IIIB contexts – and only two from Boeotian Thebes, a Canaanite jar and an Egyptian glass vase found in the same LH III chamber tomb, that are not part of the hoard of 38 Near Eastern cylinder seals found at that site.<sup>9</sup> In comparison, on Crete there are 11 at LM IIIA–C Knossos (10 from Egypt and 1 from Syro-Palestine) and 7 at Chania, but fully 113 from Kommos in LM IIIA–C contexts (24 from Egypt, 52 from Syro-Palestine, 35 from Cyprus, and 2 from Anatolia), to name those with the most *Orientalia*.<sup>10</sup>

Admittedly these are not tremendous numbers, but I believe that they are enough to work with, especially since I consider that they are probably just the tip of the iceberg in terms of what once existed. I should note, however, that Bill Parkinson has recently suggested that we should consider these objects in terms of what he calls “contacts,” i.e. groups of objects that probably arrived together, rather than the actual specific numbers (though those are also of interest, of course). He believes that the raw numbers exaggerate the situation because they fail to account for individual items that may have, or probably, arrived together, and he is undoubtedly correct.

As I have noted elsewhere, Parkinson suggests that one should look at the minimum number of “contacts” required to account for and explain the *Orientalia* found at each Aegean site. Instead of seeing 111 *Orientalia* at Mycenae in all periods from LH I–IIIC, for example, he sees 61 contacts. Instead of 41 separate imported objects at Thebes over that same time span, he sees only seven contacts. The 39 *Orientalia* at Perati are “reduced to 26 contacts” and those at Tiryns

<sup>5</sup> Cline 1994, xvii.

<sup>6</sup> Cline 1994, xvii.

<sup>7</sup> Cline 1994, 89, Table 55.

<sup>8</sup> Cline 1994, 90, Table 56, now with the addition of the ivory artifact inscribed with cuneiform published by Cohen et al. 2010.

<sup>9</sup> Cline 1994, Table 70, 276–77, with catalogue numbers given.

<sup>10</sup> Cline 1994, 90, Tables 57–8; note that Rutter’s recent publications of the Kommos material will affect the specific numbers involved, but not the overall picture.

to 29 contacts.<sup>11</sup> This seems to be a logical suggestion, especially in light of other scholars who have taken the numbers themselves to the edge of ludicracy by saying, for instance, that one could potentially interpret the raw numbers as implying that 0.5 objects had arrived each year over the course of six centuries.<sup>12</sup>

These numbers, whether seen as raw numbers or as “contacts,” led me to conclude at one point that we can see some differential distribution patterns which may imply competition rather than cooperation. For instance, at Mycenae and its surrounding area, we have a relatively large number of Egyptian objects but few Cypriot objects, whereas at Tiryns, just three kilometers away, Cypriot imports, local imitations, or items made specifically for the Cypriot market are fairly common, while Egyptian imports are unknown.<sup>13</sup> This might reflect a specific trade partnership between Egypt and Mycenae, for example, particularly when one takes the Amenhotep III objects and the Aegean List into consideration,<sup>14</sup> or between Cyprus and Tiryns, considering especially the objects found at Tiryns that appear to be specifically made for the Cypriot market, including Mycenaean vessels with Cypro-Minoan signs incised before firing.<sup>15</sup>

Moreover, it is clear that on Crete, Kommos was a major center of importation in the LM IIIA period, when fully 84 imported Orientalia are found, with the numbers then rapidly dropping off, including not a single import arriving in the LM IIIC period. These numbers may reflect Kommos’ function as a port city and gateway to the rest of the island, including Knossos which has fewer imports from Egypt and the Near East than does Kommos during these centuries.

### Cooperation vs. Competition

But what if we now attempt to go beyond these numbers? What was bringing these imports to the Aegean (apart from ships, of course)? What was the motivation? Were these finished items, and the raw materials that undoubtedly accompanied them, if the Uluburun ship is a typical example, with its mixture of finished and raw goods, being sent from the Eastern Mediterranean by merchants hoping to sell them? Were they gambling that they knew what the Mycenaeans and Minoans wanted and prepared to take a loss if they had guessed incorrectly? Or were they objects and materials that had been specifically ordered by Mycenaean or Minoan polities who knew what they needed, i.e. for the perfume industry at Pylos which needed terebinth resin, or the ivory workshops at Mycenae which needed raw hippopotamus ivory?<sup>16</sup> Or was it tin and glass that they needed? Were some of them royal gifts and exchanges rather than commercial trade items? And were these exchanges being made in an atmosphere of competition or cooperation, of abundance or scarcity? What was driving the market at the time, or was there even a market?

Here we must use some common sense and be aware of the limitations of our data. Mario Liverani has already presented to us at this conference some of the economic and theoretical models that have been discussed at one point or another during the decades since the mid-20th century, including those of Polyani, Mauss, and Levi Strauss, not to mention Wallerstein and others. Most of these were concerned with the Ancient Near East, such as the role of the palace versus the temple; others were concerned with both the Near East and the Aegean, including discussions of center and periphery, or could be applied to either, such as reciprocity versus redistribution versus market economy. Such models have gone in and out of fashion, as Liverani has cogently reiterated, and frequently reflect the realities of the external modern world or fash-

<sup>11</sup> Parkinson 2010, 17–9 and initial discussion in Cline 2009, 166.

<sup>12</sup> Cherry 2009, 112.

<sup>13</sup> Cline 1994, xvii; see now also articles Maran 2004, 2009; Hirschfeld 1992, 1996.

<sup>14</sup> Cline 1987, 1990, 1998; Cline and Phillips 2005; Cline and Stannish 2011.

<sup>15</sup> Hirschfeld 1992, 1996; Maran 2004, 2009; Cline 1994.

<sup>16</sup> See the suggestion in Cline and Yasur-Landau 2007.



ionable trends current at that point in time in other fields, such as Geography, Sociology, Anthropology, Economics, and even Literary Criticism.

I doubt that many would disagree with me if I were to say that the data currently available to us, both artifactual and textual, and from both the Aegean and Eastern Mediterranean, including sites like Ugarit and Amarna, indicate that trade between these diverse areas during the Late Bronze Age was driven primarily by a market economy, which implies competition, but that there was also a fair amount of gift giving, i.e. reciprocity, especially at the royal levels, as well as redistribution, such as may have occurred on Minoan Crete. There may well have also been some degree of cooperation, though I have not seen such reflected in the texts with which I am familiar. After all, how many people or corporations were in a position to send a ship and cargo like the Uluburun ship to the Aegean? We have merchants like Sinarānu of Ugarit who obviously sent his own, and we have the kings of Egypt, Babylon, Assyria, and Mittani sending their own caravan trains with gifts around the Ancient Near East. Perhaps there were other private merchants who might have teamed up to send a single ship with their cargoes on it, including possibly additional Ugaritic merchants such as Rap'ānu and 'Urtēnu, but, again, I have yet to see this reflected in the available texts.<sup>17</sup>

Moreover, the Linear B texts, and the past century of scholarship, indicate that the Mycenaeans did not have a centralized government, but rather that the **small kingdoms were separate and autonomous**. Thus, it is probably a fairly obvious assumption that they were in competition for resources. This can include trading with each other, as indicated in the tablets, and perhaps even a certain degree of cooperation, including perhaps building and maintaining the roads between the major cities/kingdoms, but **I would argue that there was almost certainly competition rather than cooperation between them for the goods coming from Egypt and the Near East.**

This would seem to be logical, at least from our point of view today, and I rather doubt that things were too much different back then – certainly the distribution pattern of the Orientalia found in the Late Bronze Age Aegean implies that there was differential access to these imported objects. The best parallel, I would suggest, might well be the city-states of later archaic and classical Greece, especially during the centuries when they were establishing colonies, often specifically to send raw materials back to the mother city.<sup>18</sup> On Crete, the situation is less clear, especially since we do not have enough data to be confident yet. I would also probably stress that we must differentiate between the centuries, for Crete in the 14th century may have been very different from Crete in the late 13th or the 12th century, after the Mycenaeans had taken over.

But, what if the cities in the Bronze Age Aegean were not passively waiting for ships and goods to arrive from the Eastern Mediterranean, but were actively sending or shopping for such items? What if the Uluburun ship were not a gift-laden ship sent by an Egyptian or Near Eastern king, or a commercial ship sent by a private Eastern Mediterranean merchant such as Sinarānu, but was a ship sent by one or more Aegean polities to fetch raw materials from eastern markets, as I have suggested with Assaf Yasur-Landau?<sup>19</sup> Would such polities have been acting in competition or in cooperation?

Again, there is so little data available that I don't believe we can currently decide, but it would certainly depend upon how well the individual Aegean polities got along and the economic system(s) that they had in place. Agamemnon could apparently rally the other kings to come to his assistance in the Trojan War, if one is inclined to use Homer as an authentic historical source, but that doesn't mean that they weren't normally in competition – after all, there's nothing like a common enemy to rally together people who are usually competitors. And, we also have the fact that there are lots of Cypriot objects at Tiryns but relatively few at Mycenae,

<sup>17</sup> See Bell 2012 and Monroe 2009, with earlier references. For 'Urtēnu see the contributions of McGeough and Pruzsinszky – Solans in this volume.

<sup>18</sup> Graham 1964.

<sup>19</sup> Cline and Yasur-Landau 2007.

indicating perhaps a direct trade or interest. The same may hold true for Egypt and Mycenae as well as for Thebes and Mesopotamia.

I also wonder if the merchants and polities on either side of the Mediterranean undertook what we would call “**risk-benefit analysis**” before sending out a ship either with cargo or to fetch cargo – that is, comparing the perceived risk of a situation to its potential benefits, if successful, and to the potential loss, if unsuccessful. I would venture to guess that they did, for humans have been consciously or unconsciously using risk-benefit analysis ever since they decided to descend from the trees and roam the African savannah among the predatory animals. In this case, sending ships back and forth would have involved risk factors such as piracy, especially in the time of the Sea Peoples, as well as weather and other environmental factors. And, were there insurance agents who underwrote such voyages? George Bass, in a NOVA television program, once said that the ancient version of Lloyd’s of London may have taken a beating when the Uluburun ship went down. He was joking, but it may not have been too far from the truth. **We don’t yet have textual evidence for the insuring of shipping activities in the Bronze Age, at least not to my knowledge, although we do have evidence from Ugarit at this time for investors being repaid if cargoes were lost or destroyed,** and of course maritime insurance and loans are known from fourth century B.C.E. Greece as well as during the Roman and Byzantine periods.<sup>20</sup>

Of course, **clearly everyone in the Aegean was in competition for the same scarce natural resources** – they all needed **copper**, on which the Cypriots held a near monopoly; they all needed **gold**, which the Egyptians basically controlled; they all needed **tin**, which Carol Bell has recently described as “*the key strategic commodity of the Bronze Age*”,<sup>21</sup> and they all wanted **lapis lazuli** from the Badakhshan region of Afghanistan, as well as **ivory** from the Levant, and so on. Can we find a single instance of competition or cooperation from the Mycenaean point of view? I don’t believe that we can at the moment, but it may be possible in the future. Most likely, such would be attested textually, if we had records left to us in Bronze Age Greece similar to the Amarna letters of Egypt. However, we don’t have such records just yet, and thus – as far as I know – **we still have no mention of international trade in the Linear B texts** of Pylos, Knossos, Mycenae, and Thebes.<sup>22</sup>

The only material examples that I can possibly see at the moment exemplifying some sort of cooperation are the Amenhotep II monkeys found at Mycenae and Tiryns, a male figurine at Mycenae and a female figurine with child at Tiryns.<sup>23</sup> While I have absolutely no evidence, I do believe that this pair of small figurines must have originally arrived in the Aegean together and only later were separated. Even so, I do not know whether this implies cooperation or something else entirely, such as the nature of the relationship between Mycenae and Tiryns.

And, what about from the Near Eastern point of view, i.e., the suppliers of raw materials and finished goods as well as the consumers of Mycenaean and Minoan ceramics, wine, oil, and perfume? Here, too, our evidence is currently too fragmentary. We know that Sinarānu had a ship coming back from Crete and also that there are a number of Aegean polities listed by Amenhotep III at Kom el-Hetan, which implies a fairly-detailed knowledge of the Bronze Age Aegean.<sup>24</sup> However, we have no mention at all of anywhere in the Aegean, or people from the Aegean, in the Amarna letters and no discussions of gift-giving or of commerce with the Aegean during this period elsewhere in the Near Eastern texts, even at Ugarit, apart from Sinarānu.<sup>25</sup> Even the two new occurrences of Aḥḥiyawan men in the Ugaritic texts and the numerous mentions of Aḥḥiyawa in the Hittite texts do not help,<sup>26</sup> nor do the earlier mentions of Caphtorian

<sup>20</sup> See, e.g., Temin 2006, 144; Monroe 2009, 78–80, 108–15; also Monroe 2010 on the “sunk costs” of the Uluburun shipwreck.

<sup>21</sup> Bell 2012, 186.

<sup>22</sup> Cline 2009.

<sup>23</sup> Cline 1991.

<sup>24</sup> Cline and Stannish 2011, with earlier references.

<sup>25</sup> Bell 2012, 184–85.

<sup>26</sup> Beckman, Bryce, and Cline 2011.

goods in the Mari letters give a firm sense of how those items actually reached Mesopotamia.<sup>27</sup> Thus, we remain in the dark in terms of knowing about competition versus cooperation in this long distance trade.

### Cooperation vs. competition and abundance vs. scarcity

Finally, I would like to turn to a concept and question that I have just begun exploring. The concept is that of abundance versus scarcity and the question is how it might impact our understanding of the trade and contacts between the Late Bronze Age Aegean and the Eastern Mediterranean, particularly in terms of cooperation versus competition and, indeed, outright survival in the end.

This is not a new framework by any means, for there have been discussions and theories about abundance and scarcity in many disciplines over the years, including cultural anthropology, philosophy, economics, game theory, and organizational theory.<sup>28</sup> There are actually three very different aspects to the discussion which may be of use to us here. First is the question of what happens when a commodity that had been abundant suddenly becomes scarce; second is the question of what happens when the reverse takes place and a commodity that had been scarce suddenly becomes abundant; and third is what happens to cooperation versus competition in the marketplace as *perceptions* of abundance and scarcity fluctuate?

To address the last question first, about cooperation versus competition, this is a topic that is currently very much under discussion today, especially by small business owners, financial planners, and organizational development consultants, not to mention self-help gurus and others.<sup>29</sup> In the Abundance Mentality, as it is called, the thinking is that there is more than enough to go around of whatever it is that is desired and that cooperation is better because everyone wins. In the Scarcity Mentality, however, the thinking is that there is not enough to go around and that if you get more, then I will get less; hence there is competition for the resource, commodity, or whatever it is. **The basic idea, at least today, is that when resources are abundant, people running small businesses are more likely to cooperate with each other, i.e. in terms of giving a job to a friend if they cannot do it themselves, etc; but when resources are scarce, people are more likely to compete and be more selfish.** I think it can be applied to the LBA Aegean and Eastern Mediterranean in a pretty obvious manner, but am unaware of much literature on the topic.

In these mentalities, it is irrelevant whether something is actually abundant or scarce; **what matters is the perception of the situation.** In game theory, we find the Scarcity Mentality referred to as “zero sum games” and the Abundance Mentality cited as “win-win” or “non zero sum games”. In cultural anthropology, we find the image of “limited good”, while evolutionary psychology and organizational design have their own terms, frequently based on a language of scarcity.<sup>30</sup> A number of advocates, including the above-mentioned small business owners but also futurists (i.e., those trying to predict trends, etc., for the next generation or more), are currently embracing the Abundance Mentality, arguing that cooperation rather than competition is better for all concerned.<sup>31</sup>

Of course, we cannot know which mentality was embraced during the Late Bronze Age, if either, but I would suspect that they both were and that it fluctuated, just as access to raw materials and resources also fluctuated over time. Here, however, is where I would ask what happens when a commodity that had been abundant suddenly becomes scarce? For example, there is a sudden shortage of grain in the Eastern Mediterranean towards the end of the Bronze Age, as

<sup>27</sup> Cline 1994, with earlier references.

<sup>28</sup> Jansen and van den Heuvel 2012.

<sup>29</sup> See e.g. Covey 1990, 1996; Myers and Simon 1994; Keeble 2001; Ahmed 2010; Diamandis and Kotler 2012.

<sup>30</sup> See discussion and bibliography in Jansen and van den Heuvel 2012.

<sup>31</sup> Frey 2012a, b; see also Pearson 2011.

attested textually at Ugarit, at the same time as other previously-abundant goods also become scarce. As Mario Liverani stated at this conference, if something becomes scarce, one usually looks for a new source, a new substitute, or a new system overall.<sup>32</sup> However, even while doing so, one is faced with a “Scarcity Mentality” where previously an “Abundance Mentality” had been in place.

A shift from an abundance model to a scarcity model, even just in mentality, could potentially cause a huge shift in the economy. In a redistributive system such as might have been in place on Minoan Crete, if people suddenly began to feel the effects of scarcity and thus began to give less to the palace and/or to hoard some of their production – that is, if “consumer confidence” failed, to put it in modern terms – then there could be ripple effects throughout, including potentially bringing down the entire system.

Similarly, on mainland Mycenaean Greece, which was probably not based on a redistributive system, if the economy was upset, through a drought, an earthquake, or the cutting of the trade routes – some or all of which happened at the end of the 13th century B.C.E. – and raw goods and materials were no longer as abundant or available, then people may also have started to hoard or otherwise act more competitively according to a Scarcity Mentality, representing a change from the previous Abundance Mentality in place during the 14th and earlier 13th centuries B.C.E. This could have had a ripple effect here as well, and perhaps even have contributed in part to the collapse of the Bronze Age Aegean world.

In fact, we might well wonder whether, in an economy where imports had been relatively abundant, such as the Aegean in the 14th and much of the 13th century B.C.E., a sudden scarcity of such objects and raw materials would be enough to contribute to the collapse of the economy? Scholars have wondered about this in terms of the Bronze Age Aegean since at least the time of Emily Vermeule in 1960.<sup>33</sup> Was there an overdependence upon foreign goods, whether raw materials or finished goods? Could the Mycenaean economy have been fragile enough so that the cutting of the trade routes to the Near East, perhaps by the Sea Peoples or perhaps simply because of other events or economic downturns at the eastern end of things, was enough to alter the status quo and cause an economic collapse in the Aegean by the end of the 12th century B.C.E.? Frankly, I doubt that we can espouse such a hypothesis on its own, but what if such occurred in tandem with other events, such as a drought or earthquakes, both of which are believed to have taken place at this same approximate time?<sup>34</sup> Would we not be looking at a potential system’s collapse which could have brought the Bronze Age Aegean, and much of the Eastern Mediterranean, to its knees?

And what if we looked at the opposite side of things, i.e. when a resource that had been scarce suddenly becomes abundant? Previous examples cited in the literature and elsewhere include salt, pearls, and even telephones; all of these were once scarce, but became common for one reason or another, such as the development of cultured pearls and the advent of portable cellular telephones rather than the previous “one land-based phone line per household”. These can be game-changing occurrences, as some futurists have suggested, especially for people or companies that are able to turn scarcity into abundance.<sup>35</sup> Here I would make the obvious observation, in terms of the Aegean and Eastern Mediterranean at the end of the second millennium and the beginning of the first millennium B.C.E., that when copper, tin and other resources suddenly became scarce, it was iron, which had been scarce or at least under-utilized in the Bronze Age, that began to be used in abundance, thus ushering in a whole new age at the beginning of the first millennium. The change from bronze to iron at the turn of the millennium has, of course, always been obvious, but it might bear new fruit if we look at the change in terms of the

<sup>32</sup> Liverani, pers. comm. 31 May 2012.

<sup>33</sup> Vermeule 1960.

<sup>34</sup> See, e.g., Nur and Cline 2000, 2001; Drews 1993, with earlier references.

<sup>35</sup> Frey 2012a, b.

mindset of abundance versus scarcity and the accompanying paradigms, in tandem with our studies concerning cooperation and competition in the ancient Mediterranean world.

*Prof. Dr. Eric H. Cline*  
*Department of Classical and Near Eastern Languages and Civilizations*  
*Capitol Archaeological Institute*  
*The George Washington University*  
*335 Phillips Hall*  
*801 22nd St. NW, Washington, D.C. 20052*  
*USA*  
*ehcline@gwu.edu*

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