

COLLAPSE OF BRONZE AGE CIVILIZATION IN THE EASTERN MEDITERRANEAN:  
CONSPIRING FACTORS THAT LED TO THE DARK AGES

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The end of the Bronze Age c. 1200 BC in the Eastern Mediterranean is an ongoing topic of scholarly debate. Some scholars blame the sudden and violent collapse of Bronze Age civilization in the Aegean Sea region, Egypt, along the Levantine coast, Anatolia, and other parts of the Near East on one key factor or another; e.g., earthquakes or drought. Certainly, one particular factor could have created a chain reaction that led to the other factors and ultimately a collapse. However, it is probably impossible and overly simplistic to blame any one factor for such a colossal cultural transition. Several conspiring factors deserve a share of the blame. The totality of many environmental, cultural, and military factors led to cultural collapse and to the period of transition known as the Dark Ages.

Invasions, raids, and widespread devastation provide obvious evidence of the collapse, but environmental factors, such as earthquakes, volcanos, drought, and other changes in climate, could have started the entire process in motion by encouraging the large-scale migration of peoples throughout the region. Cultural factors, such as overpopulation, overuse of resources, scarcity, poor economic conditions, and leadership, may have caused migrations of disaffected people. These migrations led to contact between previously separated civilizations, contact that often led to conflict. Some of these conflicts were fought to secure land or economic gain, while others were fought for survival. These migrants banded together into hordes of skirmishers, a strategy likely derived from their economic disadvantage yet one that proved effective against the chariot-based armies of the great kingdoms of the region. Military factors, such as the shift from chariot warfare to footsoldier warfare and the rapid change in battle tactics and armor, help to explain the inability of the traditionally powerful Mycenaeans, Hittites, and Egyptians to repel the hordes. Thus, several environmental, cultural, and military factors conspired to create widespread devastation, economic collapse, isolation, and the beginning of a dark age.

Environmental factors, such as earthquakes, volcanos, drought, and other changes in climate, may very well have instigated the entire process that led to Bronze Age collapse. Earthquakes are somewhat common in the Eastern Mediterranean. According to the Institute of Geodynamics at the National Observatory of Athens, the country of Greece had 21,410 earthquakes of 1.5 magnitude or greater from November 29, 2013 to November 29, 2014.<sup>1</sup> In comparison, Earthquake Track's analysis of USGS data showed that the state of California had 7133 earthquakes of 1.5 magnitude or greater during the same period.<sup>2</sup> Some of the most notable earthquakes and volcanic eruptions in the Eastern Mediterranean were quite severe. Before the mid-second millennium BC eruption of the volcano on the island of Thera (now Santorini), many of the people of Thera and the surrounding islands may have fled the area, never to return, due to the numerous earthquakes that preceded the eruption. This may account for the reason why there are no remains of bodies in the streets of Akrotiri (the Thera capital) as were found at the Roman city of Pompeii in the aftermath of the AD 79 eruption of Mt. Vesuvius.<sup>3</sup> People fleeing the earthquakes, as well as the post-eruption refugees fleeing crop failures and contaminated drinking water in debris-covered lands, had no choice but to search for new homes. The refugees would have been desperate to seek food, land, employment, and other means of survival.

A sudden migration of large numbers of dispossessed people undoubtedly overwhelmed the resources of neighboring empires.<sup>4</sup> Egypt, some of the Levantine civilizations, the Hittites of Anatolia, and the Mycenaeans of mainland Greece likely endured a great influx of these

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<sup>1</sup> Institute of Geodynamics, National Observatory of Athens, "Database of revised events," <http://bbnet.gein.noa.gr/HL/database> (accessed November 29, 2014, 11:55 PM, EST).

<sup>2</sup> Earthquake Track, "Recent Earthquake Near California, United States," <http://earthquaketrack.com/p/united-states/california/recent> (accessed November 29, 2014, 11:55 PM EST).

<sup>3</sup> Clive Oppenheimer, *Eruptions That Shook the World* (Cambridge: Cambridge University Press, 2011), 225.

<sup>4</sup> Sonia A. Buist and Robert S. Bernstein, "Health Effects of Volcanoes: An Approach to Evaluating the Health Effects of an Environmental Hazard," *American Journal of Public Health* 76, no. 3 (March 2, 1986): 1, *Business Source Elite*, EBSCOhost (accessed November 27, 2014).

migrants. At first, the refugees probably provided a welcomed new labor force and a pool from which to recruit mercenaries. Over time, however, the benefit of additional labor probably became a curse as food, water, shelter, and economic resources became overburdened by the rapid increase in population. Perhaps illustrative of this, the Egyptians fought the Sherden and other sea pirates in the second regnal year of Ramses II (c. 1277 BC). His attack of Kadesh in the fifth year of his reign (c. 1274 BC) ironically included Sherden mercenaries, the very people he fought against a couple of years before.<sup>5</sup> The Medinet Habu reliefs in the mortuary temple of Ramses III, who reigned a century after Ramses II, show that he employed Sherden mercenaries in his battle against the “Sea Peoples” (c. 1180 BC), a group of invaders that included the Sherden.<sup>6</sup> The Sherden and other Sea Peoples seem to have been loyal to their employer and not to each other. This could indicate civil war, but it could also indicate desperation. Could the Sherden and the other Sea Peoples have been refugees fleeing an earthquake or volcanic eruption? If so, their displacement and resulting desperation might have caused them to seek employment wherever possible, even on both sides of a conflict.

It is possible that climate change, whether caused by a volcanic eruption or other causes, precipitated the displacement and migration of the Sea Peoples and otherwise upset the balance of power in the Eastern Mediterranean. According to Robert Drews, dendrochronological evidence from Gordion (Gordium) in Anatolia show a series of narrow tree-rings that date to c. 1200 BC (the approximate date of the Late Bronze Age collapse), indicating that there may have been many dry years.<sup>7</sup> Although Drews discounts the probability that drought created the “Catastrophe,” as he terms the collapse, it does seem possible that drought conditions could have

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<sup>5</sup> Anthony J. Spalinger, *War in Ancient Egypt: The New Kingdom* (Oxford: Blackwell Publishing, 2005), 209.

<sup>6</sup> Robert Drews, *The End of the Bronze Age: Changes in Warfare and the Catastrophe ca. 1200 B.C.* (Princeton, NJ: Princeton University Press, 1993), 153.

<sup>7</sup> *Ibid.*, 79.

indeed encouraged mass migrations. One possible explanation for the tree ring anomaly may point again to volcanism. When volcanos spew sulfur dioxide into the atmosphere, the gas oxidizes into an aerosol layer that mixes with precipitation.<sup>8</sup> The acid rain and the lack of sunlight due to atmospheric ash leave a record in yearly layers of snow in polar areas, such as Greenland and Alaska, as well as in the growth rings of California's long-living bristlecone pine and the European oak. Data from ice-cores taken in Greenland in 1980 showed a "significant acid layer" at c. 1390 BC, indicating a possible late date for the Thera eruption. However, a different method of examination of the same samples in 1987 rejected the late date in favor of an early date c. 1644 BC.<sup>9</sup> According to dendrochronologist Mike Baillie, ring data from trees in Ireland, England, and Germany show evidence of a significant atmospheric event c. 1628 BC consistent with volcanic activity.<sup>10</sup>

These dates, particularly the early dates in the 1600s BC, are far too early to have placed migrating Sherden and other Sea Peoples directly on Egypt's doorstep during the reigns of Ramses II or Ramses III. However, the eruption of Thera or another regional eruption or earthquake may have served as the initial catalyst that caused homelessness and ultimately led to large migrations. Environmental events could have destabilized the entire region, damaging fields, disrupting trade, causing economic collapse, upsetting the balance of power, and creating conditions favorable for mass migrations. The full effects would have taken decades, or perhaps a couple centuries, to reach their full measure. Earthquakes, eruptions, drought, and other changes in climate could have created a "tipping-point" that put the region on a path toward

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<sup>8</sup> Sturt W. Manning, *A Test of Time: The Volcano of Thera and the Chronology and History of the Aegean and East Mediterranean in the Mid-Second Millennium BC* (Oxford: Oxbow, 1999), 268.

<sup>9</sup> M. G. L. Baillie, "Volcanoes, Ice-Cores and Tree-Rings: One Story or Two?" *Antiquity* 84, no. 323 (March 2010): 210-211. *Academic Search Premier*, EBSCOhost (accessed November 28, 2014).

<sup>10</sup> *Ibid.*, 212.

decline, as the Theran eruption example suggests.<sup>11</sup> Certainly, the evidence shows that something cataclysmic occurred, perhaps creating a billiard ball scenario that eventually affected the entire region. Environmental factors may indeed have led to migrations of cultures, such as the Sea Peoples, and ultimately to the Dark Ages that enveloped the region.<sup>12</sup>

While it is tempting to blame the end of the Bronze Age on environmental factors alone, as some scholars have, the evidence is far from conclusive and far from complete. The great migrations of the Sea Peoples could just as likely have occurred due to overpopulation, overuse of resources, scarcity, or poor economic conditions in their native lands. For example, hundreds of thousands of Europeans migrated to the United States in the late-nineteenth and early twentieth centuries to find better economic conditions. Mexican citizens today travel north to cross the border into the United States for a share of the “American Dream.” The marauders that overwhelmed civilizations in Egypt, the Levant, Anatolia, and Greece before the Dark Ages may have left their native lands to obtain a share of the prosperity that the Egyptians, Hittites, and Mycenaeans enjoyed.

The migrating Sea Peoples may have found the great kingdoms already in a weakened state, indicating that some cultural factors may be to blame for the collapse of many Late Bronze Age civilizations in the Eastern Mediterranean. First, the great kingdoms were connected, and had been connected for centuries before the collapse. Egyptian artifacts in Canaan and other areas of the Levantine coast dating to the time of Narmer (Menes) and other early pharaohs of

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<sup>11</sup> Carl Knappett, Ray Rivers, and Tim Evans, “The Theran Eruption and Minoan Palatial Collapse: New Interpretations Gained from Modeling the Maritime Network,” *Antiquity* 85, no. 329 (September 1, 2011): 1014-1019, *Academic Search Premier*, EBSCOhost (accessed November 25, 2014).

<sup>12</sup> David Kaniewski et al., “The Sea Peoples, from Cuneiform Tablets to Carbon Dating,” *Plos ONE* 6, no. 6 (June 2001): 1, *Academic Search Premier*, EBSCOhost (accessed November 25, 2014).

the First Dynasty show substantial evidence of invasion or trade between c. 3015-2915 BC.<sup>13</sup> Much earlier evidence shows that Egypt, Mesopotamia, the Levant, and Anatolia were connected through an international “arms trade” of obsidian dating to the Early Neolithic (c. 10,000-6800 BC).<sup>14</sup> The lengthy period of connectivity grew into interdependence as the great kingdoms developed alliances and sent expensive gifts to each other to cement friendships. The Mari tablets, dated to the reign of Zimri Lim (c. 1776-1761 BC), show that allied kings in Mesopotamia treated each other as diplomatic “brothers.”<sup>15</sup> Similar alliances existed between rulers of Egypt, Levantine kingdoms, and the Hittites. A rather bizarre example of this followed the death of Tutankhamun. His wife, Ankhesenamun, requested a prince from the Hittite king Suppiluliuma to be her new husband.<sup>16</sup> Because the Hittites were a long-time enemy of Egypt, her request alludes to turmoil in the wake of the heretical reign of Amenhotep IV/Akhenaten and the uncertain circumstances of Tutankhamun’s death. Ankhesenamun’s Hittite prince did not arrive, he may have been murdered, and Ankhesenamun probably married Ay, the last pharaoh associated with the Amarna Period.

Diplomatic “brothers” exchanged lapis lazuli for spices and perfumes, they provided princes and princesses to secure their alliances in marriage, and they sent troops in times of military need. This interdependence, sometimes referred to as a “gift economy,” was expensive. To send troops, a “brother” had to adequately provision them en route. According to Anthony Spalinger, a man of average size in antiquity needed 6.6 kilos of grain and 1.9 liters of water per day.<sup>17</sup> The “brother” loaning out his troops to another “brother” would have been out a large sum

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<sup>13</sup> William J. Hamblin, *Warfare in the Ancient Near East to 1600 BC: Holy Warriors at the Dawn of History* (London: Routledge, 2006), 273.

<sup>14</sup> *Ibid.*, 27.

<sup>15</sup> *Ibid.*, 212.

<sup>16</sup> Susan Wise Bauer, *The History of the Ancient World: From the Earliest Accounts to the Fall of Rome* (New York: W.W. Norton, 2007), 244.

<sup>17</sup> Spalinger, 35.

of money and would have been minus some of his troops for an extended period. At least, that is, until the other “brother” reciprocated. The problem with expensive diplomatic alliances is that they depended on reciprocation. If one of the “brothers” failed to reciprocate, the agreement was economically and militarily unbalanced. A disaster of any type, whether environmental or military, could have served as a “tipping point.” Disease, invasion, and scarcity of resources created the potential for tipping points that could destabilize the system of diplomatic brotherhood and lead to eventual collapse. Drews discounts this “systems collapse” theory, noting that the great palaces at Hattusa, Ugarit, and Pylos did not simply fall into gradual disrepair due to economic destabilization—they were destroyed.<sup>18</sup>

The story of Ankhesenamun and the Hittite prince highlights another cultural factor that may have led to the Bronze Age collapse, leadership. Weak rulers and turmoil within dynasties likely exacerbated problems caused by disease, invasion, economic strain, and scarcity. Amenhotep IV, better known as Akhenaten, offers an example of how weak leadership may have contributed to the collapse. Akhenaten was deeply religious, creating the capital of Amarna to worship the sun disk, Aten. Building a new capital left little time for warfare, and Egypt’s control of Syria-Palestine slipped away. Egypt’s indirect control of the region led to unrest as subject peoples rebelled in the absence of Egyptian military control.<sup>19</sup> Ramses II restored much of Egypt’s control over the region nearly a century later, but weaker pharaohs after Ramses II eventually allowed the Levant to break free forever.

It is easy to imagine how weak rulers contributed to the collapse, but it is also possible that strong leadership contributed to the collapse as well. According to Egyptologist Bob Briar, Old Kingdom pharaoh Pepi II ruled for an astonishing 94 years, having ascended to the throne at

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<sup>18</sup> Drews, 88.

<sup>19</sup> Spalinger, 169-170.

the age of 6. He ruled reasonably well for many years, but the nation weakened in the twilight years of his excessively long reign. After years of “senile rule,” Egypt fell into an abrupt decline that culminated three years after his death in the collapse of the Old Kingdom and the beginning of the tumultuous First Intermediate Period.<sup>20</sup> Ramses II, arguably one of Egypt’s most powerful pharaohs, ruled for 66 years. His key military accomplishment, the Battle of Kadesh, occurred early in his long reign during his fifth regnal year (c. 1274). He spent several years battling the Hittites, but signed a peace treaty with them in regnal year 21 (c. 1258 BC), ushering in a period of relative peace for the middle-aged pharaoh. As he grew elderly, perhaps 90 years old by his death c. 1213 BC, he undoubtedly ceased symbolizing Egyptian military strength. This was problematic since the pharaoh was expected to lead military campaigns as a god. He was the war leader, both symbolically and physically, and he was expected to be first on the battlefield.<sup>21</sup> It is certainly possible that his excessively long reign damaged the New Kingdom just as Pepi II’s long reign damaged the Old Kingdom. After all, the Nineteenth Dynasty, of which Ramses II was a part, survived a mere 24 years after his death and was ruled by five briefly ruling pharaohs during that 24-year period.

To be fair to the elderly Ramses II, the military climate of Egypt and other civilizations throughout the Eastern Mediterranean region was very different in the late-1200s BC than it was when he fought at Kadesh. The military climate changed rapidly, and the great kingdoms struggled to keep up. The great cities of Pylos, Gaza, Ugarit, Hattusa, and Mycenae fell to invaders by c. 1200 BC. Archaeological evidence testifies to widespread destruction and fire damage. The Nineteenth Dynasty of Egypt’s New Kingdom collapsed and a downward spiral led to the end of the New Kingdom within little more than a century. The “palace economies” of the

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<sup>20</sup> Bob Briar and A. Hoyt Hobbs, *Daily Life of the Ancient Egyptians* (Westport, CT: Greenwood Press, 1999), 12.

<sup>21</sup> Spalinger, 70.

great kingdoms collapsed as their major cities fell to invasion, and the gift economy of the “brotherhood” of wealthy kings broke down completely. Land trade became difficult or impossible as cities along the trade routes fell. Sea trade all but ceased, understandably since the enemies traditionally blamed for this disaster were “Sea” Peoples. This was a disaster of cataclysmic proportions, and its effects lasted hundreds of years. According to Drews, “Altogether the end of the Bronze Age was arguably the worst disaster in ancient history, even more calamitous than the collapse of the western Roman Empire.”<sup>22</sup>

An important point to consider is why long-lasting, wealthy, and militarily powerful kingdoms in Egypt, Hattusa, Ugarit, and Mycenae failed to defeat “barbarian” invaders. Military factors, particularly the end of chariot warfare and changes in armor and weaponry, provide at least a partial solution. Prior to the collapse, chariots appear to have dominated the warfare of the great kingdoms. During the Middle Bronze Age (1800-1600 BC), chariots evolved from heavy war-carts pulled by donkeys to light carts with spoked wheels.<sup>23</sup> A charioteer and an archer on this lighter form of chariot pulled by faster equids provided the kings of the Near East with a powerful military force. The so-called “chariot tablets,” found at Mycenaean-controlled Knossos on Crete, record a stockpile of hundreds of chariots and chariot parts, along with nearly 8,000 arrows for chariot archers.<sup>24</sup> Reliefs depicting the Battle of Kadesh in Ramses II’s mortuary temple indicate that the type of combat his army used against the Hittites was mainly based on chariots, and both sides of the conflict had thousands of them.<sup>25</sup> Charioteers assembled in long lines at the front of the army and charged at their opponent’s chariot line. Meanwhile, the archers aimed to take down enemy horses and charioteers as the lines closed in on each other. After the

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<sup>22</sup> Drews, 3.

<sup>23</sup> Hamblin, 149.

<sup>24</sup> Drews, 124.

<sup>25</sup> Spalinger, 216.

clash, the chariots completed their pass and the archers shot at the backs of enemy charioteers. Survivors in both chariot lines wheeled around to make another pass at each other. From the complexity of these battles, it is clear that they required a great deal of setup and positioning. In fact, they may have been pre-announced or “heralded,” as Thutmose III’s temple inscriptions at Karnak indicate.<sup>26</sup>

Unfortunately for the great kingdoms, the invaders did not play by the rules of chariot warfare. After all, they did not have chariots. They were people of the sea, who poured off their boats to plunder and destroy the great cities. According to Drews, “A force of several thousand skirmishers, possibly crammed into no more than thirty or forty boats, would have been sufficient to defeat whatever chariot force sallied out against them.”<sup>27</sup> Rather than riding a chariot, these footsoldiers ran onto the battlefield in massive numbers and launched javelins at the charioteers.<sup>28</sup> In contrast, the armies of the great kingdoms shot arrows from their chariots and used lances to knock opposing charioteers to the ground. In addition, they wore plate armor and used greaves to protect their arms, they had large shields meant to deflect a volley of arrows, and they used short swords. The chariot armies of the great kingdoms were not prepared for hordes of footsoldiers who did not ride in chariots and did not rely on the bow. Their versatility and huge numbers caused enormous problems for armies of chariots. The great kingdoms had to rethink their battle tactics—quickly.

The Egyptians and Assyrians survived this dramatic shift in warfare, albeit in an altered state. To counter this new type of foe, they and the other great kingdoms abandoned the use of chariots in battle in favor of the heavy infantryman. This soldier fought the barbarians wearing a

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<sup>26</sup> Drews, 128-129. See also Spalinger, 91.

<sup>27</sup> *Ibid.*, 221.

<sup>28</sup> *Ibid.*, 209.

corslet, holding a more maneuverable round shield, wielding a javelin and/or a spear, and brandishing a long sword meant for slashing.<sup>29</sup> Use of the bow and lance diminished quickly, as did use of the chariot. As the great kingdoms fell, declined, or changed due to the overwhelming onslaught of the invaders, the transition away from chariots and towards infantry footsoldiers became permanent. After the Dark Ages, the Greek hoplite emerged as a product of this shift. Unfortunately for the great kingdoms, nearly four hundred years of post-collapse isolation and small village fortification replaced the prosperity and power of the pre-collapse palace and gift economies.

The Bronze Age collapse of the great kingdoms of the Eastern Mediterranean remains a topic of scholarly debate. It is clear, however, that no one factor is to blame. Several factors conspired to produce the calamity and to create conditions favorable for transition into the great Classical Age that emerged after the Dark Ages. Environmental factors may have initially caused the mass migrations that led to violent contact between the great kingdoms and hordes of marauders. Cultural factors may have allowed or exacerbated the problems caused by the invasions. Military factors allowed the “barbarian” invaders to take down some of antiquity’s greatest civilizations. It was indeed a catastrophe for most civilizations in the region, especially the great kingdoms. However, the Philistines, Israelites, Arameans, Assyrians, and others actually benefitted from the decline of the traditional powers.<sup>30</sup> As with the European medieval period and the Great Depression in the United States, great civilizations sometimes rise out of the ashes of a dark age.

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<sup>29</sup> Ibid.

<sup>30</sup> Ibid., 220.

## Bibliography

- Baillie, M. G. L. "Volcanoes, Ice-Cores and Tree-Rings: One Story or Two?" *Antiquity* 84, no. 323 (March 2010): 202-215. *Academic Search Premier*, EBSCOhost (accessed November 28, 2014).
- Bauer, Susan Wise. *The History of the Ancient World: From the Earliest Accounts to the Fall of Rome*. New York: W. W. Norton, 2007.
- Briar, Bob and A. Hoyt Hobbs. *Daily Life of the Ancient Egyptians*. Westport, CT: Greenwood Press, 1999.
- Buist, A. Sonia, and Robert S. Bernstein. "Health Effects of Volcanoes: An Approach to Evaluating the Health Effects of an Environmental Hazard." *American Journal of Public Health* 76, no. 3 (March 2, 1986): 1-2. *Business Source Elite*, EBSCOhost (accessed November 27, 2014).
- Drews, Robert. *The End of the Bronze Age: Changes in Warfare and the Catastrophe ca. 1200 B.C.* Princeton, NJ: Princeton University Press, 1993.
- Hamblin, William J. *Warfare in the Ancient Near East to 1600 BC: Holy Warriors at the Dawn of History*. London: Routledge, 2006.
- Kaniewski, David, Elise Van Campo, Karel Van Lerberghe, Tom Boiy, Klaas Vansteenhuyse, Greta Jans, and Joachim Bretschneider. "The Sea Peoples, from Cuneiform Tablets to Carbon Dating." *Plos ONE* 6, no. 6 (June 2001): 1-7. *Academic Search Premier*, EBSCOhost (accessed November 25, 2014).
- Knappett, Carl, Ray Rivers, and Tim Evans. "The Thera Eruption and Minoan Palatial Collapse: New Interpretations Gained from Modeling the Maritime Network." *Antiquity* 85, no. 329 (September 1, 2011): 1008-1023. *Academic Search Premier*, EBSCOhost (accessed November 25, 2014).
- Manning, Sturt W. *A Test of Time: The Volcano of Thera and the Chronology and History of the Aegean and East Mediterranean in the Mid-Second Millennium BC*. Oxford: Oxbow, 1999.
- Oppenheimer, Clive. *Eruptions That Shook the World*. Cambridge: Cambridge University Press, 2011.
- Spalinger, Anthony J. *War in Ancient Egypt: The New Kingdom*. Oxford: Blackwell Publishing, 2005.