

# The Discovery of the Sin Cities of Sodom and Gomorrah—Part 2

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## Trade With Syria

In 1975 a great archive of clay tablets dating to 2400–2350 BC was discovered at Tell Mardikh, ancient Ebla, in northern Syria (Archi 1997). One of the tablets is a geographic atlas listing 289 place names. An analysis of two segments of the list by William Shea indicates that they are sites located in Palestine, possibly places visited by merchants from Ebla (Shea 1983). The second segment, sites 188–219, traces a route from Syria south through the central hill country of Cisjordan, along the western shore of the Dead Sea, south of the Dead Sea Plain and then north along the east side of the Plain and Dead Sea. In the area corresponding to the east side of the Dead Sea Plain there are two places named—Number 210, Admah, and Number 211, Sodom. If Shea’s readings are correct, this would be the only confirmed mention of the Cities of the Plain outside the Bible.<sup>1</sup> But why were not the other three cities, Gomorrah, Zoar, and Zeboiim, mentioned? The excavations at Numeira perhaps can shed some light on that question. These excavations revealed that Numeira (=Gomorrah) was in existence for only a short period of time, less than 100 years. It appears that the Ebla Atlas was composed prior to the founding of Numeira. The same may true of Zoar and Zeboiim.

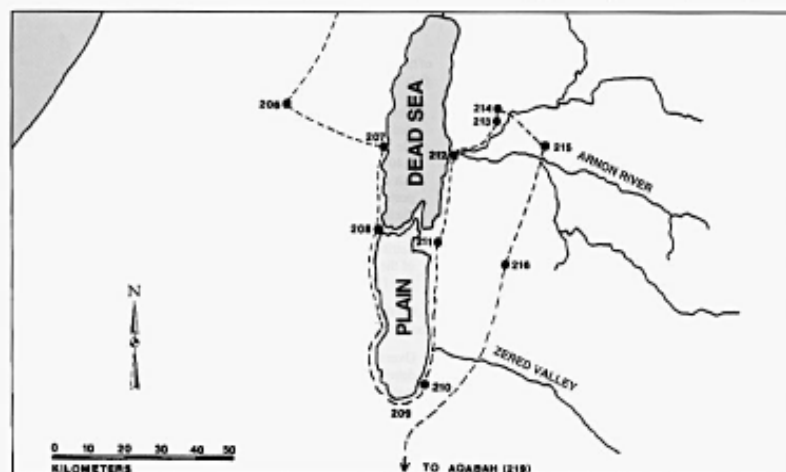
There has been some corroborating evidence from Bab edh-Dhra for this proposed contact.

Among the cultural items that reflect foreign contact...the majority—including architectural features, cylinder seal impressions, jewelry, some forms of pottery, and a carved bull’s head—show Syrian, if not Mesopotamian, influence (Schaub 1993: 135).

## Means of the Destruction of the Cities of the Plain

### *The Biblical Description*

The Bible provides a detailed description of the calamity that befell the Cities of the Plain. In that description are two Hebrew phrases and a Hebrew word that must be exam-



**Route traced by the Ebla Geographic Atlas.** Site 210 is Admah and site 211 Sodom—the only known occurrence of names of the Cities of the Plain outside the Bible.

ined in order to understand the event: *goprît wa<sup>É</sup>eš*, the material that fell on the cities (Gn 19:24), *hapak*, what happened to the cities (Gn 19:25), and *k<sup>é</sup>qîtor hakkibšan*, what Abraham observed (Gn 19:28).

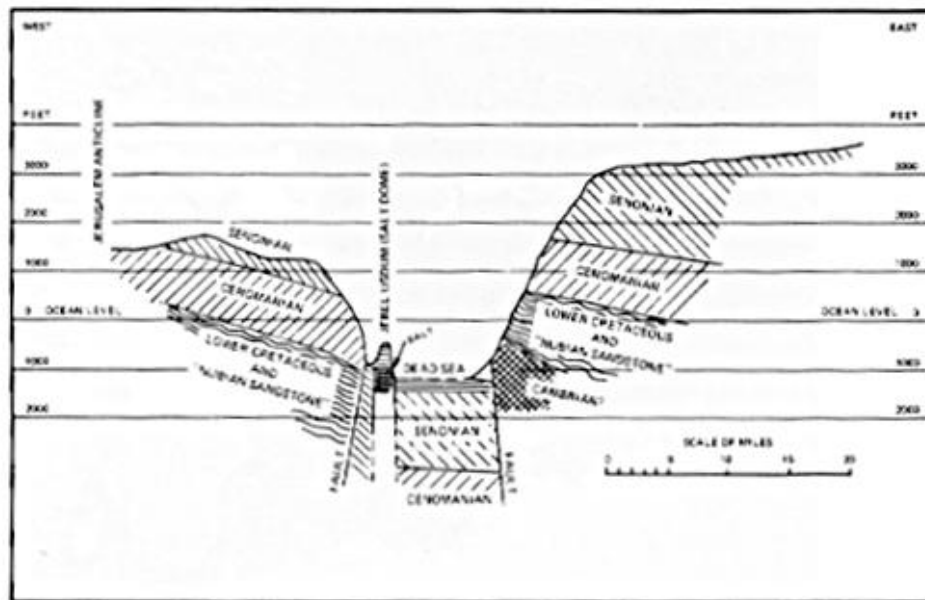
The word *goprît* is a foreign loan word, most likely derived from Akkadian *ki/ubritu*, which means sulfurous oil (black sulfur) (Gentry 1999). The word accompanying *goprît*, *wa<sup>É</sup>eš*, simply means “and fire.” In other words, the material that fell on Sodom and Gomorrah and the Cities of the Plain (except Zoar) was a burning petroleum product. The term *hapak* means to overturn, or overthrow.

When Abraham looked down upon the scene of devastation, he observed smoke rising from the land of the plain, *k<sup>é</sup>qîtor hakkibšan*, “like smoke from a furnace.” A *kibšan* is a pottery kiln (Wood 1992). Air passing through a pottery kiln does so by means of a forced draft resulting from the heating of the air. The smoke exiting from a kiln is forced out of the exit flue and pushed upward into the air. That is what Abraham observed—smoke from the land of the plain being forced upwards. The word used for smoke, *qîtor*, is not the word used for smoke from an ordinary fire. Rather, it is a thick smoke, the smoke that comes from sacrifices. It is clear that something unnatural or extraordinary is recorded here.

The Biblical description, then, of the destruction was of burning material raining down from above, accompanied by an overturning of the cities and thick smoke being forced upward from the land. A rather apocalyptic scene, one that was forever etched in the minds of the ancient Israelites. The awful devastation and destruction that occurred that day became the example *par excellence* of God’s judgment of sin.

### Geological Investigations

At first reading it would seem that the destruction was caused by a volcanic eruption. When geologist Frederick G. Clapp visited the region in 1929 and again in 1934 he found that there was no evidence to indicate that lava or ash eruptions had taken place as re-



**Cross-section of the Dead Sea area**, showing the geological strata and fault lines on either side of the Dead Sea Plain. A possible explanation for the destruction of the Cities of the Plain is that pressure from an earthquake caused underground flammable petroleum products to be forced up through the fault lines. They then become ignited and rained down on the surrounding countryside. The sites of Bab edh-Dhra and Numeira are located precisely on the eastern fault line.

cently as 4,000 years ago. He determined that topographic relationships render it probable that the last outburst in the vicinity took place thousands of years before Abraham's time (Clapp 1936a: 906; 1936b: 339–40). More recent assessments support that conclusion (Neev and Emery 1995: 147).

Clapp found that the region south of the Dead Sea is very unstable, being bordered by fault lines on the east and west. Earthquakes are common in this area. After surveying the geology of the district, Clapp concluded that combustible materials from the earth destroyed the cities. He found bitumen and petroleum in the area. Natural gas and sulfur, which normally accompany bitumen and petroleum, are also present. These combustible materials could have been forced from the earth by subterranean pressure brought about by an earthquake resulting from the shifting of the bounding faults (Clapp 1936a: 906; 1936b: 340). Geologists who have studied the area in recent times agree with Clapp's reconstruction (Harris and Beardow 1995: 360; Neev and Emery 1995: 13–14; 33, 37). If lightning or surface fires ignited these combustibles as they came spewing forth from the ground, it would indeed result in a holocaust such as described in Genesis 19. It is significant to note that both Bab edh-Dhra and Numeira lie at the edge of the plain, *exactly on the eastern fault line!*

Abraham, after having previously spoken with the Lord, knew of the impending judgment. Rising early in the morning he looked toward the Cities of the Plain from his vantage point at Hebron, high on the Mount Judah range west of the Dead Sea. Smoke rising from the plain south of the Dead Sea would have been readily visible from Hebron. In fact, mist rising from the Dead Sea can be seen almost any day from there. Abraham's eyewitness description fits the theory of a conflagration of petroleum products, for such a conflagration would result in a thick black smoke being forced into the sky by the heat and pressure of the burning materials shooting out of the fissure in the earth.

### ***Evidence at the Town Sites***

That an earthquake occurred at the time the cities were destroyed is clear from the work of geologist Jack Donahue of the University of Pittsburgh. At Bab edh-Dhra he found that during the period of occupation there was sedimentation, or infilling, and a build up of cultural debris (Donahue 1985: 135). Following the destruction, this changed to an erosional regime, brought about by an uplift of the area (Donahue 1980: 50; 1985: 134–36). The uplift produced an increase in the elevation differential between the town site and the Wadi Kerak on the north side of at least 28 m (92 ft) (Donahue 1985: 134). This resulted in severe erosion on the north side of Bab edh-Dhra, causing the north wall to eventually collapse into the wadi (Donahue 1985: 136).

At Numeira the findings were similar:

It is suggested here that the tower collapse and extensive burn layers over the site were caused by an earthquake generated by fault movement (Donahue 1985: 139).

The earthquake caused either an uplift in the vicinity of the site or a down dropping of the rift valley to the west, resulting in a 50 m (164 ft) increase in elevation differential between the town site and Wadi Numeira to the north (Donahue 1984: 86; 1985: 137). It also caused a change in direction of the Wadi Numeira, which flowed south of the site during the period of occupation (Donahue 1984: 86, 88; 1985: 138). Heavy erosion following the event resulted in the loss of the north part of the settlement, including the north defensive wall (Donahue 1984: 87; 1985: 138, 139).



**Stone-lined grain storage pits at Numeira.** Many such pits were found at Numeira, but they were all empty. Evidence suggests the inhabitants fled their homes with as much food as they could carry, with the idea of living out in the open until the earthquake was over. They never returned—Numeira lay in ruins until discovered and excavated by archaeologists in the 1970s.

Evidence found at Numeira suggests the residents fled the town in haste. Most identifiable doorways from the latest phase of occupation had been deliberately blocked. This apparently was an attempt to strengthen the homes against damage. In addition, no valuable small finds were discovered nor were there foodstuffs in the storage facilities. On the other hand, large quantities of pottery were found on the floors of the houses, evidently too heavy and bulky to transport in the hasty evacuation. It appears the residents had some early warning, such as preliminary tremors, and did what they could to prepare. They shored up their houses, gathered up their valuables and as much food as they could carry, and fled their homes never to return (Coogan 1984: 80–81).

### ***Evidence at the Bab edh-Dhra Cemetery***

We have detailed the evidence that both town sites were destroyed by an overwhelming conflagration. Additional evidence from the cemetery at Bab edh-Dhra demonstrates that the destruction included areas outside the towns, thus involving “the entire plain” (Gn 19:25) and that it “came out of the heavens” (Gn 19:24).

During the Early Bronze III period the dead at Bab edh-Dhra were interred in charnel houses built above ground. Five of the buildings that were excavated, A8, A22, A41, A51 and A55, were in use at the end of the life of the city. In each case the building was extensively burned (Schaub and Rast 1989: 326–26, 344, 384; Rast and Schaub 1978: 24; Rast and Schaub 1980: 37). The explanation the excavators offer for this burning is that it was intentionally done by a human agent that also destroyed the town (Rast and Schaub 1978: 24; Rast 1987: 49; Schaub and Rast 1989: 396). The evidence we have discussed above points to destruction by earthquake rather than by a human agent. Even if Bab edh-Dhra was destroyed by an enemy, it seems highly improbable that a conqueror would go into a cemetery located several hundred meters away and systematically set fire to and demolish all the burial houses. This would be an unprecedented act for which there are no known parallels. There is a more logical explanation.

During the 1979 season, the last and largest of the charnel houses, A22, was excavated. The building was 15.5 x 7.8 m. (50.8 x 25.6 ft) in size and



**The author standing in Charnel House A22 at Bab edh-Dhra.** The largest of the excavated charnel houses, or funerary buildings (15.5 x 7.8 m, or 51 x 26 ft), the structure was destroyed by fire at the same time the city was destroyed. The fire started on the roof and spread to the interior when the roof collapsed. This provides graphic evidence that “the Lord rained down burning sulfur on Sodom and Gomorrah—from the Lord out of the heavens” (Gn 19:24).

constructed of mud bricks. The floor consisted of small pebbles and the roof was made up of wooden beams, reed matting and mud. Underneath the rubble, the archaeologists found the interior of the building filled with pottery and other funerary objects, and piles of human skeletal remains and skulls in disarray (Rast and Schaub 1980: 36–37).

The building had been severely burned. Remnants of charred posts and beams from the roof were found among the ruins. Much ash was also found, along with bricks that were turned red from the intense heat. More intriguing than the mere fact that the charnel house was destroyed by fire, however, is the way in which it was burned—*from the inside out*. At first, the archaeologists thought this was a deliberate burning associated with some religious or hygienic practice. The excavation of Charnel House A22, however, has laid that theory to rest. It is now evident that the roof, engulfed in flames, collapsed into the building and caused the interior burning:

The extensive burn is clear evidence of the tomb's destruction by fire. Burning was concentrated along the interior wall in the center of both sectors, where the majority of posts and beams were uncovered. Along the south wall impressions of desiccated beams angled down toward the interior transverse wall, indicating that they had collapsed in the center across the interior wall (Rast and Schaub 1980: 37).

The destruction of the charnel houses at Bab edh-Dhra was brought about by the roofs first being set on fire, then collapsing, causing the interiors of the buildings to burn. This is entirely consistent with the Biblical description of the destruction of Sodom and Gomorrah, when “the Lord rained down burning sulfur on Sodom and Gomorrah—from the Lord out of the heavens” (Gn 19:24).

### **Date of the Destruction**

A rather precise date for the destruction of the Cities of the Plain can be worked out from the internal chronology of the Old Testament. Since the Lord told Abraham and Sarah about the coming birth of Isaac just prior to the destruction (Gn 18:10–14), the date of the destruction can be calculated based on the birth date of Isaac. If we assume a mid-15th century BC date for the Exodus, the date for the destruction would then be ca. 2070 BC.<sup>2</sup>

The archaeological date for the destruction of Bab edh-Dhra and Numeira, however, is considerably earlier than this. Rast gives the date for the end of the Early Bronze III period and the destruction of the cities as 2350 BC (1987: 47; 1992: 560). Schaub places the date slightly later at 2300 BC (1997: 249).<sup>3</sup> This leaves a discrepancy between the Biblical date and the archaeological date of 230–280 years. Does this mean that we cannot correlate the archaeological findings at Bab edh-Dhra and Numeira with the events described in the Bible?

In reality, the archaeological date for the end of the EB III period cannot be determined with any degree of certainty. Dating for the Bronze Age in Palestine is dependent upon synchronisms with the known history of Egypt. To date, we have no such synchronisms for the EB III period. There are a few correlations for the previous EB II period, suggesting that it was approximately contemporary with the Archaic Period (First and Second Dynasties) in Egypt, ca. 3100–2700 BC (Mazar 1990: 135; Ben-Tor 1992: 122; Kitchen 1996: 11). The dates for the Archaic Period only are known to within 200 years (Kitchen 1991: 202).

Similar connections for the beginning of the ensuing Middle Bronze Age indicate that it was roughly contemporary with the beginning of the 12th Dynasty of the Egyptian Middle Kingdom, ca. 1973 BC (Mazar 1990: 151; Ben-Tor 1992: 159–60; Kitchen 1996: 11).

Manfred Bietak, based on his important work at Tell el- Dab<sup>1</sup>a, Egypt, places the beginning of the 12th Dynasty at ca. 1973 BC and the beginning of the Palestinian Middle Bronze period somewhat later at ca. 1900 BC (1997: 90, 125–26). The dates for the Middle Kingdom are known fairly well, within plus or minus 10 years, according to Kenneth Kitchen, a recognized authority on Egyptian chronology (1996: 9).

How the intervening 700–800 years from the end of EB II to the beginning of MB should be divided between the EB III and EB IV periods is strictly an educated guess.<sup>4</sup> It is thought that EB III was the longer of the two periods because of multiple phases of building and destruction found at a number of sites, including Bab edh-Dhra (Ben-Tor 1992: 123). It is entirely within the realm of possibility, therefore, that the destruction of Bab edh-Dhra and Numeira could have occurred at the Biblical date of ca. 2070 BC. We shall have to await further discoveries before an accurate archaeological date can be assigned to the end of EB III.

### **Time of Year When the Destruction Occurred**

There is one additional correlation that can be made between the Biblical record and the archaeological findings—the time of year when the earthquake occurred. As pointed out by William Shea, the time can be set at late spring or early summer (1988: 21–22). When the angels visited Abraham the Lord announced,

“I will surely return to you in the spring, and Sarah your wife shall have a son”...“At the appointed time I will return to you, in the spring, and Sarah shall have a son” (Gn 18:10, 14, RSV).

If we assume that conception occurred approximately one month after the announcement, it would place the visit of the angels, and thus the destruction of the Cities of the Plain, in the late spring or early summer.

The well-preserved ruins at Numeira produced a number of surprises, including whole grapes.<sup>5</sup> During the 1977 season a large cache was found.

It is remarkable, for example, that the grapes in Locus 17 of SE 3/1 were preserved even with their outer skins, due perhaps to the burning material which collapsed over the area and sealed these items (Rast 1981: 43).

Although carbonized whole grapes have been reported from Salamis, Hesban and Jericho, the size of the Numeira hoard, which consisted of over 700 whole grapes, is very uncommon (McCreery 1981: 168).

The fact that the grapes were intact indicates that they were freshly harvested. In the hot climate of the Dead Sea valley the harvesting of grapes occurs earlier than other parts of the country—in the late spring or early summer. In the 1981 season more grapes were found, prompting the excavator to comment on the chronological implications:

The infrequent small finds included...more whole carbonized grapes with the stems attached and what preliminary analysis indicates were carbonized watermelon seeds (both evidence for dating the destruction of the site to late spring) (Coogan 1984:77).

### **Conclusion**

When the archaeological, geographical and epigraphic evidence is reviewed in detail, it is clear that the infamous cities of Sodom and Gomorrah have now been found. What is more, this evidence demonstrates that the Bible provides an accurate eyewitness account of events that occurred southeast of the Dead Sea over 4,000 years ago.

## Notes:

- 1 The original epigrapher of the Ebla expedition, Giovanni Pettinato, claimed in 1976 to have found the names Sodom, Gomorrah and Zoar/Bela in the Ebla tablets. Alfonso Archi, Pettinato's successor as Ebla epigrapher, vigorously contested this. See the discussion in Shea 1983: 608–609.
- 2 1450 Exodus (1 Kgs 6:1; Jgs 11:26) + 430, length of Egyptian Sojourn (Ex 12:40), + 130, Jacob's age when he entered Egypt (Gn 47:9), + 60, Isaac's age when Jacob was born (Gn 25:26), + 1, the pregnancy of Sarah with Isaac = 2071 BC.
- 3 Carbon 14 dates for the end of the EB III period at both Bab edh-Dhra and Numeira are much too early and have been disregarded by the excavators (Rast and Schaub 1980: 45–47). Similarly, C14 dates for the end of the succeeding EB IVA period of 2200 BC (Schaub 1993: 136) may be too early.
- 4 The end of EBIII is given as 2350 BC in the *Anchor Bible Dictionary* (Dever 1992; 110), 2200 BC in the *New Encyclopedia of Archaeological Excavations in the Holy Land* (vol. 4, p. 1529) (1993), and 2300 BC in *The Oxford Encyclopedia of Archaeology in the Near East* (vol. 5, p. 413) (1997).
- 5 The grapes of Sodom and Gomorrah are referred to in Deuteronomy 32:32.

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