

OLD TESTAMENT SURVEY

Lesson 20 – Part 3

Joshua and the Promised Land (Jericho)

When I was in law school, one of the required courses was “Legal Research and Writing.” In the practice of law, writing is a critical component, even for those of us who make our living arguing cases before juries. Much of American law is based on the rulings of prior courts as well as the interpretation of statutes and rules. It is never enough to say, “I think it should be this way or that way.” There must be “precedents.”

Because of this, lawyers are constantly citing other cases and rulings in their writings. One of the textbooks for my class was “the blue book” entitled *A Uniform System of Citation*. This book is the authority for citation form used by courts and expected from lawyers in most every court throughout the United States. Citation form is important because the citation itself is important. Lawyers are held to an ethical standard that any briefing to a court must fairly and correctly reflect the cases and law. By having a standard form of citation one can always go check the reference and determine whether the lawyer has fairly portrayed the substance and accurately referenced its source.

The class taught another aspect of writing that was of absolute importance. When citing an authority or proposition of law, one rarely cited secondary sources. Primary sources were always preferred. The difference between a primary source and a secondary source is generally simple. A primary source is the actual authority at issue. A secondary source is a writing by someone else characterizing the primary or original source.

Once a writing was in final form with primary authorities properly cited and with the substance fairly and legitimately set out, one final measure was taught. The lawyers looked to the citations with two goals in mind. First, the citation was double checked to make sure it properly identified the source and had not fallen subject to some typographical error. Second, the holding or rule (which generally means the cases given as authority) was put through a separate examination to make sure that no new court had overturned or modified the decision. Lawyers are not to cite old authority that had been overturned!

The rigid rules taught through this course permeated my thinking, and I now categorize much of what I read accordingly. There are books and articles that have no citations which I put in the category of interesting (or not!). Then there are other writings that come with references and citations. These I consider authoritative works. By giving references, I have an ability to follow through the reference to make sure the author is accurately portraying the subject or idea.

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There are works that speak out as “authoritative” where the references and citations are missing. I readily admit that I am always mildly suspicious of anything in these works that is not already common knowledge. If it is rare, controversial, unusual, or outside the stream of readily known material, I want a reference!

This thinking comes in quite handy when studying materials like the archaeology of the Bible. Many works are written with little to no references. That is fine to the extent these works are simply giving basic material and are written for a casual audience. But when these reference-wanting works tread upon contentious ground and present opinion as fact, my frustration level rises—especially if they pretend there are no other legitimate perspectives.

In this lesson, we delve deeper into the archaeology surrounding Jericho, and the account in Joshua. Reading the scholarly material on this subject, I find it a story of missing citations, of inadequate explanation, and unfair representation. It requires us to weed through several generations of writings to sort out what the real state of knowledge is, so that we can form intelligent opinions as opposed to regurgitating the opinion of someone with whom we already agree, or find most interesting.

JERICHO – THE BIBLICAL ACCOUNT

Joshua tells an amazing story about Jericho. Moses had died, the Israelites had a new man in charge, and a lot of military conquests lay ahead. The Israelites were not some elite trained military force. They were shepherds who had spent most of their life trying to eke out an existence in the wilderness between Egypt and Canaan. These people had seen some fighting, but most of their confrontations were internal and non-violent.

I suspect if I had been there, the major question on my mind would concern the change in leadership. Time had shown that Moses had a clear line of communication with the LORD. To a lesser extent, Aaron also had extra insight from the Divine One as well. With Moses, battles were won, although in at least one, he had to keep his arms up to ensure a victory. My question would have been whether or not the LORD was with Joshua the same way! Would Joshua be able to hear the special and sometimes detailed instructions of the LORD? Would Joshua be able to help these wilderness shepherds in war against the various people in Canaan?

Jericho would have answered my questions! The first battle for Joshua and the Israelites in the post-Moses era came after crossing the Jordan River. (Even that crossing was one where God’s work through Joshua mimicked the LORD’s prior crossing of the Re[e]d Sea with Moses.)

For the confrontation with Jericho, the LORD gave Joshua some most unusual instructions:

March around the city, all the men of war going around the city once. Thus shall you do for six days. Seven priests shall bear seven trumpets of rams horns before the ark. On the seventh day you shall march around the city seven times, and the priests shall blow the trumpets. And when they make a long blast with the ram's horn, when you hear the sound of the trumpet, then all the people shall shout with a great shout and the wall of the city will fall down flat. (Josh. 6:3-5).

Now, that surely struck the Israelites as bizarre as it does the first-time reader today. That is not standard military tactic!

Joshua and the people followed God's instructions precisely, and when the seventh day came, after the seven-circle march and the appropriate horn blasts,

The people shouted a great shout, and the wall fell down flat (Josh. 6:20).

If I had been there following these instructions, then seeing the results would have fully confirmed to me both Joshua's leadership and the LORD's anointing on him. This was a man to whom God was clearly speaking in great detail!

I suspect that this story was included in such detail in Scripture because of this confirmation. It told the people to trust Joshua and to trust the LORD who was behind Joshua. Jericho was certainly not a large or important town. Several of the towns we considered in the last lesson were bigger and more significant, yet this story gets the primary attention within the Joshua narrative. It was the first victory without Moses, and it was very significant to the people.

Because the means of victory were so exotic, the story has held the fascination of people throughout the ages. It is not surprising that as archaeology began to develop as an academic discipline, Jericho was an easy attention getter! The attraction of discovering the famous fallen walls surely made it easier to raise funds for the work involved in the dig!

The account of Jericho takes up more room in the Joshua narrative than any other battle or confrontation.¹ The entire southern campaign against a coalition of five kings and involving a number of towns all fits into chapter 10; the entire northern campaign and battle at Hazor fits neatly into chapter 11. So as we read an entire

¹ Arguably the battle for Ai gets more space, but even Ai is linked to Jericho because of the difficulties related to the sin of Achan arising out of a failure to follow God's instructions in Jericho.

chapter dedicated to the specifics of the battle of Jericho, a natural question arises: Why?

Why would this much time be spent on this battle? Was it simply to put some enthralling story into Israel's past (regardless of its truth)? If one were writing fiction, it would seem much more sensible to write this magnificent victory as one over Hazor or some other significant town. Jericho was not a large town, or even a town of great note. It was relatively isolated around an oasis/spring near the Dead Sea.

The "Why?" question has an easy answer if the story is real history. From a historical perspective, it makes sense that the battle would unfold as it did. As referenced earlier, it certainly would solidify the people behind Joshua after Moses' death. There could be little question that Joshua was God's anointed after this incident. Further, as the first battle west of the Jordan River, it set a measure of fear and concern into the other towns and people soon to face the Israelites. The events make great sense as history, but as fiction, they are surprising. In spite of this, many scholars believe the Jericho account to be fiction concocted hundreds of years later. Archaeology supposedly proves this fiction by showing that Jericho did not exist at the time of Joshua and an Israelite incursion in the Late Bronze Age (particularly c. 1230 BC). This is the issue we focus on in this lesson.

JERICHO – THE ARCHAEOLOGY

As interesting as the biblical story of Jericho is, the story behind the archaeology is almost its equal! Let's start today and work back.

Don C. Benjamin, teaches Biblical and Near Eastern Studies at Arizona State University. Earlier this year, Benjamin published a textbook *Stones and Stories: An Introduction to Archaeology and the Bible*.² It is the kind of book that undergraduate students might use in a course on the subject. Benjamin does a wonderful job at giving introductory information on some of the history of Biblical archaeology, on the methods of excavating a site and other non-controversial information and data.

In other places, however, Benjamin makes opinionated statements that beg for footnotes or other explanatory information, much as I set out in the beginning of this lesson as a legal taboo. As they are, his opinions read like facts, leaving the reader to try and discern where his writings are factual and where they reflect his own interpretation of controversial evidence. Jericho is a good example of this.

² Benjamin, Don C., *Stones and Stories: An Introduction to Archaeology and the Bible*, (Fortress Press 2010).

Benjamin writes,

An ongoing challenge for cultural historians working in the world of the Bible is how to resolve contradictions between material remains and written remains [i.e., the Bible]. For example, the preached tradition understands the books of Joshua and Judges to be a description of how miraculous military victories confirmed the Hebrews' faith in Yahweh. Nonetheless, Kathleen Kenyon (1906—1978), who excavated Jericho from 1952 to 1959, could not confirm that there was a city at the site when the Hebrews were in Syria-Palestine. Instead the Hyksos' city of Jericho was destroyed in 1350 B.C.E.—more that 250 years before Joshua (1200—1000 B.C.E.)—and that the site remained abandoned until 716 B.C.E., when Hezekiah of Judah rebuilt it.³

Admittedly, Benjamin is not writing for a court, or even a law school professor, but writing like this would never get him a decent grade in a law school research and writing class. Nor would he fare well in math class if he thinks a destruction in 1350 BC is 250 years before a Joshua invasion in 1200 BC (which is better noted in the range of 1225 BC)!⁴

Benjamin makes multiple assumptions and conclusions, writing as if it is all well settled and beyond dispute. As a result, it leaves an unwary reader accepting his words as true. Meanwhile, those who know enough to see his words as opinions cloaked as data, likely know enough to not be reading such a primer in the subject.

Let us dissect what he writes. Benjamin first assumes that there are contradictions between the written record (the Bible) and the material record (archaeological findings). The only substantiating evidence for this opinion is the example given of Jericho. He says that Jericho was abandoned, and no city existed on the site from 1350 to 716 BC. His cite for this, to the extent he has one, is Kathleen Kenyon and her excavations from 1952 to 1959.

By the flow of his statements, we should be able to read Kathleen Kenyon's writing on her findings at Jericho and see the Jericho site abandoned from 1350 to 716 BC. We then turn to his bibliography to find which of Kenyon's writings he gives as references. (This is always interesting because when books are given simply in bibliography without page and line cites, the author does not necessarily

³ *Ibid.*, at 92.

⁴ Benjamin gets his dates all wrong here. The prevailing opinion is that Middle Bronze Age Jericho was destroyed as part of the Egyptian expulsion of the Hyksos around 1560 BC. Jericho lay dormant for almost two hundred years after that. See Kenyon, Kathleen, "Jericho", *The New Encyclopedia of Archaeological Excavations in the Holy Land* ("NEAE"), Stern, Ephraim, ed. (Simon & Schuster 1993) at 680.

indicate he/she has read the references. It simply can be a list of authoritative materials!)

Interestingly, of the Kenyon references given by Benjamin, none are Kenyon's writings of her dig at Jericho. He gives two books she wrote *before* finishing her Jericho excavations. He also gives a general book she wrote, *Archaeology in the Holy Land*,⁵ and a set of essays published right before she died (as edited a decade later).⁶ Neither of these books are her detailed analysis of her findings at Jericho.⁷

The findings of Kenyon are not hard to get. If Kenyon's opinions are his justification for his conclusions, Benjamin should be able to go straight to the primary source of Kathleen Kenyon and read what she has written. It is not hard, yet, many in academia unfortunately give well-circulated opinions of certain references rather than actually doing the investigation to see if the opinion is accurate. In 1957, Kenyon published *Digging Up Jericho: The Results of the Jericho Excavations 1952-1956*, copies of which are still available today.⁸

Kenyon's book referenced above is not the only primary source for her opinions. Benjamin could read her opinions in countless articles she published in academic journals as well as her encyclopedia entry in *The New Encyclopedia of Archaeological Excavations in the Holy Land*.⁹

Using these primary sources, let us put Benjamin's statements about Kenyon's findings to the test. Does Kenyon find the site "abandoned" from 1350 to 716 BC? The simple answer to this is: "No!" There is more detail in the answer, however, which points out the logical fallacy of Benjamin and others in rendering their comments on Kenyon's findings.

To best understand this point, let us first use a simple illustration. Last spring, we took our children to a sandy ocean beach. We went near the waters edge and built a tremendous sand castle. More than a castle, we built a village. It was quite spectacular. The next day, there was little to no evidence of that sand village. It was gone. I could tell you about it, explain the number of walls and the moat built

⁵ Kenyon, Kathleen, *Archaeology in the Holy Land*, (Thomas Nelson 1960)

⁶ Kenyon, Kathleen and Morey, P. R. S., *The Bible and Recent Archaeology*, (John Knox 1987).

⁷ Benjamin also provides the bibliographic information on Kenyon's 1971 book *Royal Cities of the Old Testament*, (Shoken 1971) which is not based on Jericho either.

⁸ Kenyon, Kathleen, *Digging Up Jericho: The Results of the Jericho Excavations 1952-1956*, (Praeger 1957).

⁹ Kenyon, Kathleen, "Jericho", *The New Encyclopedia of Archaeological Excavations in the Holy Land*, Stern, Ephraim, ed. (Simon & Schuster 1993) at 674ff.

around it. I could detail the towers and the bucket-shaped shaped main building, but there was nothing remaining to show you.

Of course it is obvious to anyone thinking through this illustration that the tide and waves eroded the sand castle/village. Its residue was lost in the innumerable sand grains of the beach.

Now the question: Supposing this story is true, does the lack of evidence mean that there was never a castle? Of course not. Erosion is a foreseeable event that would keep anyone from such a claim. One might say that there is “no evidence of a castle,” but one should never say that the evidence proves the castle was never there.

This illustration helps us understand what Kenyon actually said, versus what Benjamin claims she said. Kenyon’s excavations uncovered a Jericho of great antiquity. She found activity features that dated back past 9,000 BC.¹⁰ It was a natural place for settling in the sparse desert-like land around the Dead Sea because it had a constantly flowing spring of fresh water. For thousands and thousands of years people called that area home.

A typical feature of towns like Jericho was defensive walls built around the settlement. These walls protected the townspeople from marauders as well as wild animals. Unsurprisingly, therefore, Kenyon and earlier investigators¹¹ found evidence of defensive walls in various places and at various times in Jericho’s history. Kenyon also found evidence that the town’s walls periodically fell down, whether from erosion, lack of maintenance, earthquakes, or enemy attack. She similarly found evidence of the population changing from one type of people to another. Here are some excerpts of her Jericho findings:

- “Like Pre-Pottery Neolithic A, its successor, Pre-Pottery Neolithic B, came to an abrupt end...The buildings and surfaces of the period are eroded on an angle sloping down to the exterior of the town...the

¹⁰ NEAE at 675.

¹¹ Kenyon was not digging on virgin ruins. Jericho had been subject to many other digging efforts, some of which left a bit of a mess! The Palestinian Exploration Fund sponsored excavations beginning in 1867 featuring work from Lord Kitchener and Captain Charles Warren. Then again between 1908 and 1911 the Austro-German team led by L. Sellin and T. Watzinger conducted digs there. British Professor John Garstang led a major archaeological effort from 1930 to 1936. Kenyon even discovered an area that had been backfilled by Garstang’s crew. Kenyon set out the difficulty posed by the efforts of these earlier digs in *Digging Up Jericho* at 43ff.

terraced walls had collapsed in whole or in part, and floors behind them had been washed out.”¹²

- “Jericho at this stage [the Proto-Urban phase] had grown into a steep-sided mound beside the spring responsible for its continued existence...The walls were completely destroyed, by earthquakes, by enemies, or merely through neglect.”¹³
- “The end of Early Bronze Age was sudden. A final stage of the town wall, which in at least one place shows signs of having been hurriedly rebuilt, was destroyed by fire.”¹⁴
- “Associated with these earliest Middle Bronze Age levels was a succession of town walls of the same brick type as those that form the Early Bronze Age...It is probable that elsewhere the line of these early Middle Bronze Age walls followed approximately that of the Early Bronze Age walls...However, for the greater part of the circuit, the earlier walls alone survived.”¹⁵

As the various historic settlements came to an end at Jericho, one of two things occurred. Either the town was fairly quickly re-inhabited, or it lay abandoned for some time. When the town was quickly re-inhabited, the ruins were evident for Kenyon’s excavators. The evidence of a new settlement was architectural (different building styles), different burial practices (seen in the tombs), different pottery styles, tools and weapons.¹⁶

When there was no immediate resettlement, the result was erosion:

- “Between the Pottery Neolithic and the next stage at Jericho there is another gap...The gap is indicated by the usual erosion stage.”¹⁷
- “The greater part of the summit of the mound suffered very severe erosion during periods in which the site was unoccupied.”¹⁸

¹² AENE at 677.

¹³ *Ibid.*, at 678.

¹⁴ *Ibid.*, at 678-679.

¹⁵ *Ibid.*, at 679.

¹⁶ *Ibid.*, at 679.

¹⁷ *Ibid.*, at 678.

¹⁸ *Ibid.*, at 679.

- In reference to the end of a Middle Bronze Age phase, “Only in one place, at the northwest corner of the town, did the glacis [an earthen berm/wall that often served as a base for an additional brick wall] survive to its full height, with the foundations of the wall above it. Elsewhere erosion had removed some 6 m [19 ½ feet] of it and, with them, all traces of the Middle Bronze Age walls.”¹⁹

With these background findings, we turn now to what Kenyon said specifically about a Late Bronze Age occupancy at Jericho. Kenyon actually said that *there was some Late Bronze Age II settlement, but of unknown size and extent*. The dating she believed would likely have been in the 1300 BC range rather than 1200 range, but even there she was not absolutely certain. The problem, as she pointed out, was that after this Late Bronze Destruction, the site lay dormant and subject to erosion for perhaps as much as 500 years.

Here are Kenyon’s own words on this:

- “Jericho, therefore, was destroyed in the Late Bronze Age II. It is very possible that this destruction is *truly remembered* in the Book of Joshua, although archaeology cannot provide the proof. The subsequent break in occupation that is proved by archaeology is, however, in accord with the biblical story. There was a period of abandonment, during which erosion removed most of the remains of the Late Bronze Age town and much of the earlier ones. Rainwater gulleys that cut deeply into the underlying levels have been found.”²⁰ (Emphasis added).

Kenyon does not deny the Joshua story, nor does she say it runs contrary to the evidence. She simply points out that any evidence was washed away and so archaeology cannot answer that question! So, for example, when speaking of the defenses for that time period, she does not say, “there were no walls.” Instead, she says, “Of the defenses of this period, nothing at all survives.”²¹

On the pottery finds in the tombs, she does not date the pottery to the 1200’s BC, but dates them 75 years or so before Joshua. But even here, she carefully notes that the pottery is “definitely later than 1380 BCE...[although] probably not as late as the thirteenth century.”²²

¹⁹ *Ibid.*, at 680.

²⁰ *Ibid.*, at 680.

²¹ *Ibid.*, at 680..

²² *Ibid.*, at 680.

The date of the pottery found in the tombs should not be misunderstood to equal the date of any Late Bronze Age occupation. Common sense explains why. Suppose a pot in the tomb is reasonably dated to 1300 BC. That means that the pot was placed in the tomb some time after that date. If the people were in the practice of making brand new pots (or trading for them) and placing those brand new pots in the tomb, that would help. No one suggests that such was the case, however.

We have used (old) pots that are likely going into the tombs. If a 1300 BC pot is 30 years-old when it is placed in the tomb, then the tomb records a population that died in 1270 BC, not 1300 BC. If the pot had been in the family for 50 years when placed in the tomb, then the person died in 1250 BC, etc. Furthermore, the burials occurred when survivors were able to bury their family that passed on before them. As the Joshua story sets out the events, this never would have happened. Joshua and the Israelites claim to have slain all the inhabitants leaving the town abandoned. There would be no burials from the time of Joshua.

In reviewing the findings of John Garstang, who excavated Jericho several decades before Kenyon (see footnote 10), we see Kenyon is more specific on her dating of the tomb finds.

The tombs were then re-used between about 1400 B.C. and c. 1350-1325 B.C.²³

She then goes on to document the finding of one building dated in the Late Bronze II time frame with a small juglet (a pottery piece) on the floor. In this context, Kenyon writes much as she did in the article quoted above:

The houses of the Late Bronze Age Jericho have therefore almost entirely disappeared. We have already seen that over most of the summit of the *tell* even the houses of the certainly populous Middle Bronze Age town have vanished, and only levels of the Early Bronze Age remain. We have also seen how the process of erosion was washing away the middle Bronze Age houses on the east slope...This process was arrested when the town of 1400 B.C. was built on top of the wash, but this in turn was abandoned, and erosion has almost removed it.²⁴

As to Joshua and the Jericho walls, in her book Kenyon did not dismiss the story. She simply wrote,

²³ *Digging Up Jericho* at 261.

²⁴ *Ibid.*, at 261.

It is a sad fact that of the town walls of the Late Bronze Age, within which period the attack by the Israelites must fall by any dating, not a trace remains. The erosion which has destroyed much of the defences has already been described. It will be remembered that the summit of the Middle Bronze Age rampart only survives in one place. The Late Bronze Age town must have either re-used this, or a new wall may have been built above it, so nothing remains of it.²⁵

Kenyon then gives a movie-like description of what it might have been like during the Joshua attack on Jericho. Her final cite of evidence is the small juglet referenced above. She notes,

The evidence seems to me to be that the small fragment of a building which we have found is part of the kitchen of a Canaanite woman, who may have dropped the juglet beside the oven and fled at the sound of the trumpets of Joshua's men.²⁶

Going back to Kenyon as a primary source, one must wonder if Benjamin and others bothered to read her before using her as their source that Jericho was unoccupied from 1350 BC until 715 BC.²⁷

Still to be assessed in this process is the adequacy of Kenyon's conclusions about erosion stripping the Jericho mound of evidence of any Late Bronze Age town. There we turn our attention now.

²⁵ *Ibid.*, at 262.

²⁶ *Ibid.*, at 263.

²⁷ Benjamin is not the stray bullet missing the mark on Kenyon. Repeatedly scholars publish wrongly on her findings. See, e.g., Cline, Eric, *Biblical Archaeology: A Very Short Introduction*, (Oxford 2009) at 41, "According to Kenyon's findings, Jericho had remained essentially deserted for the rest of the Late Bronze Age and into the early part of the Iron Age. It was therefore uninhabited at the time of Joshua and the coming of the Israelites. Thus the archaeological findings and the biblical account are asymmetrical (or inconsistent with each other)"; Dever, William, *Who Were the Early Israelites and Where Did They Come From?*, (Eerdmans 2003) at 46, "Moreover, Kenyon showed beyond any doubt that in the mid-late 13th century B.C.—the time period now required for any Israelites 'conquest'—Jericho lay completely abandoned."; Price, Randall, *The Stones Cry Out: What Archaeology Reveals About the Truth of the Bible*, (Harvest House Publishers 1997) at 143, "In the 1950s, however, Kathleen Kenyon excavated at Jericho and...announced that her findings revealed that the city had been destroyed around 1550 B.C., and therefore had long been uninhabited when Joshua arrived on the scene." And at 148, "Kenyon's excavations at Jericho convinced her that no one had occupied the city after 1550 B.C."

JERICHO AND GEOARCHAEOLOGY

Reading the scholars on the walls of Jericho, there are some that argue that erosion has removed the evidence of the Late Bronze Age settlement at the site. This view is set out not only by Kenyon, but also by K. A. Kitchen and others.²⁸ Those in disagreement mention the erosion idea in an off-hand manner, even claiming it a desperate rationalization with no basis in reality.²⁹

Should we simply satisfy ourselves with one side or the other? If we believe in the story, do we just accept the “erosion theory”? If not, do we agree with the name calling on the issue to avoid any need for real inspection or fair investigation? Of course the right thing to do is to consider the argument on its merits, not blindly accepting the view of either camp, simply because it comports with our own.

Since the 1970’s an increasingly common academic discipline termed “geoarchaeology” has taken geoscience and used it in an archaeological context.³⁰ While different scholars use the terms in different ways, this is an academic discipline that applies geology as a science to interpretation of archaeological remains. Geology, of course, includes the study of the effects of erosion on soils and other earthy materials.³¹ Within the framework of Kenyon’s opinions on the

²⁸ Kitchen, Kenneth, *The Bible & Archaeology Today*, (Wipf and Stock 2004) at 89; Hoffmeier, James, *The Archaeology of the Bible*, (Lion Hudson 2008) at 69.

²⁹ See, e.g., Finkelstein, Israel and Silberman, Neil, *The Bible Unearthed: Archaeology’s New Vision of Ancient Israel and the Origin of its Sacred Texts*, (Free Press 2002) at 81-83, “In the case of Jericho, there was no trace of a settlement of any kind in the thirteenth century bce...There was also no sign of a destruction...Thus the famous scene of the Israelite forces marching around the walled town...was, to put it simply, a romantic mirage...Passionate explanations and complex rationalizations were not long in coming, because there was so much at stake...In the case of Jericho, some scholars sought environmental explanations. They suggested the entire stratum representing Jericho at the time of the conquest, including the fortifications, had been eroded away.”

³⁰ Rapp, George and Hill, Christopher, *Geoarchaeology: The Earth-Science Approach to Archaeological Interpretation*, (Yale University Press 2006), at 1-2.

³¹ Geosciences focus on erosion as an important factor in farmlands maintaining soil, in changing courses of rivers and shorelines, and in other areas where erosion can have a near immediate effect. The University of Michigan and the Institute of Water Research set up factors to help determine the rate of erosion. They developed a formula where the erosion of soil was equal to a combination of rainfall/runoff, soil erodibility, the length of slope on the area, the steepness of slope, the cover (vegetative) over the area, and the maintenance work to stop erosion. If we were to take this formula back to Jericho in 1230 BC, we would check on the intensity and frequency of rains, note the excessive way the clay mud brick could erode absent protection, measure the length and steepness of the slope on the mud brick walls, note the total lack of vegetative cover, and recognize that as Jericho was to lay deserted for 400 years, there would be no maintenance on the walls. This would give us a good measurement for the rate of erosion, but without a time

erosion at Jericho, geoarchaeology offers models and information that allow intelligent assessment of her conclusions.

Well-published and scholastic archaeologists have recognized and focused on erosion.

Erosion is an important factor in archaeological investigations, as archaeologists often find sites at places where erosion has occurred... Unfortunately, because erosion is ongoing, this means that many sites can be lost before they are found.³²

In Ebert and Singer's published analysis of how to predict erosion, they set forth a number of factors involved in computing erosion including soil structure and texture, slope of the material featured in erosion, wind and wind direction, and water/rain (especially the speed of the running water—the steeper the slope water runs on, the greater the erosion). Steeper slopes, like earthen embankments, lose more soil and surface from both runoff and wind than more flat surfaces. Coverage factors, especially thick groupings of trees, are the best protection against erosion.

Ebert and Singer's article is not blazing new ground. It is standard recognition in that scientific discipline. It is not written with any religious agenda. It is totally secular in its purpose and content. Similarly, the textbook by George Rapp, a Professor of Geoarchaeology, sets out the same principles.

Rapp explains the importance of slope and vegetation:

Slope stability and effective ground cover (vegetation) are the keys to understanding local erosional processes that take place away from meandering rivers and wave-pounded coasts.³³

Rapp also explains the role of water, not only pounding and running down sloped embankments and walls, but also undermining the integrity of walls by attacking the foundations and ground support from below.

Water is the most aggressive weathering agent there is...Structures built on slopes underlain by shale, unconsolidated sediments, or fill can topple or

machine, we cannot do more than approximate these factors. See this in usage at the Michigan State website: www.iwr.msu.edu/rusle/factors.htm.

³² Ebert, David and Singer, Matthew, "GIS, Predictive Modelling, Erosion, Site Monitoring," *The Sheffield Graduate Journal of Archaeology*, Dec. 2004 (8).

³³ Rapp at 249-250.

come apart because of uncommonly heavy rainfall that saturates new parts of the underlying ground, causing major downslope earth movements.³⁴

Rapp does note an additional important feature left out by Ebert and Singer: earthquakes and seismic disturbances. Noting that structures of walls around ancient towns frequently had stone reinforced foundations with mud brick walls on top (like excavation indicates were present in earlier-aged Jericho), Rapp explained that earthquakes could topple and destroy the mud brick walls without destroying the underlying stone walls or foundations. This would subject the mud brick walls to great erosion from subsequent rains and wind.³⁵

Where does this data intersect with the Jericho site? Jericho lies below sea level in the Dead Sea valley. It would likely have little slope stability both from the lack of vegetation (the area is a natural desert, absent the spring that was nearby) and from seismic activity. As Rapp noted,

Archaeological excavations and recorded earthquake history along the Dead Sea fault running between Israel and Jordan [the Jericho area] provide an almost continuous record for more than 2,000 years. T. Niemi and Z. Ben-Avraham have found evidence for earthquakes in Jericho from slumped sediments of the Jordan River Delta in the Dead Sea. They used seismic-reflection data to show that a long-term record of ancient earthquakes in Jericho can be found in the sedimentary record.³⁶

Again we emphasize Rapp is not writing a book with any religious overtones. It is simply a scientific textbook that never mentions or references any matter of religion or the Bible.

While it may seem obvious that such earthquakes might have occurred during the time frame of the Late Bronze/Early Iron Ages, it is not a matter without its own scientific inquiries.

Stanford geophysicist Amos Nur published his findings on the Late Bronze Age earthquake activity of the Eastern Mediterranean, including the Dead Sea/Jordan Valley in 2000. His findings were significant to our discussion:

While the evidence is not conclusive, based on these new data we would suggest that an “earthquake storm” [clusters of quakes] may have occurred in the Late Bronze Age Aegean and Eastern Mediterranean [including the

³⁴ *Ibid.*, at 254, 258.

³⁵ Rapp at 258ff.

³⁶ Rapp at 260.

Jericho area by his maps] during the years 1225-1175 BC. This “storm” may have interacted with the other forces at work in these areas [erosion] c. 1200 BC and merits consideration by archaeologists and prehistorians.³⁷

Earthquake data and natural lack of vegetation are not the only connection points between state of the art scientific analysis/modeling of erosion and the site at Jericho. A closer focus on the remains at Jericho shows that the other erosion factors discussed above also come into play. After spending several successive winters excavating Jericho, Kenyon noted the weather pattern regarding the rainy season.

Winter rains in the Jordan Valley are violent while they last, and summer heat tends to reduce all surfaces to crumbly dust, easily washed away by the next rains.³⁸

Geologist Paul Goldberg notes the importance of driving hard rains in his textbook on geoarchaeology emphasizing,

Intensive rainstorms, are seen as the most important cause of major erosional and depositional events.³⁹

In a later section of the book dealing specifically with the ruins known as “Tells” or “mounds” which include Jericho, Goldberg adds that the mud brick used frequently in the walls and homes “are particularly susceptible to erosion by rainfall.”⁴⁰ Of course we already referenced Kenyon writing about her findings of “rainwater gulleys that cut deeply into the underlying levels” of Jericho.

Aside from the theoretical and scientific assessment of erosion’s reality, there is one more important avenue of inspection: observation.

While no one has lived the hundreds of years necessary to observe the erosion at Jericho’s ruins, it does not mean that we are without an ability to make observations. The ruins at Jericho go back past 8,000 BC. In those ruins, Kenyon and others traced destructions and rebuilding. As was typical in the ancient world, the rebuilding came on top of the older destroyed level, creating the mound or Tell

³⁷ Nur, Amos and Cline, Eric, “Poseidon’s Horses: Plate Tectonics and Earthquake Storms in the Late Bronze Age Aegean and Eastern Mediterranean,” *Journal of Archaeological Science* (2000) 27, 43-63.

³⁸ *Digging Up Jericho* at 259-260.

³⁹ Goldberg, Paul and Macphail, Richard, *Practical and Theoretical Geoarchaeology* (Blackwell 2006) at 77.

⁴⁰ *Ibid.*, at 227.

shown today. The rebuilding would serve to insulate the lower layers from erosion. The top most layer would typically suffer the erosion, not the layers covered up.

The erosion problem was greatest when the site lay dormant after destruction. Then the layer that is on top is the layer that was destroyed. Without any upkeep or rebuilding, the abandoned layer was subject to all the destructive erosion forces detailed earlier. We know this to be true at Jericho because of observation in the archaeological binoculars.

The Middle Bronze Age town was built over the Early Bronze Age remains. After a destruction of the Middle Bronze Age town, there was a dormant period of almost 200 years. This time period was enough to wipe away through erosion almost all evidence of the thriving Middle Bronze Age town. The reason we know much about the Middle Bronze Age town is what was learned from the excavation of Jericho tombs from that time period.

Consider then the destruction set out in Joshua. The town was not only destroyed, but it lay dormant for twice as long as the period needed to remove almost all evidence of the Middle Bronze Age town. For 400 years, the decay and erosion took place. Furthermore, the residue from run off and erosion would likely go toward the east, toward the Jordan River (toward where the land slopes). Yet that area is not available for careful excavation because it has already been destroyed in the construction of a road that cuts right through the eastern boundary of ancient Jericho.

CONCLUSION

Kitchen went through a disclosure of his perspective on erosion and then concluded,

We will never find “Joshua’s Jericho” for that very simple reason [erosion].

This brings us full circle to the last two lessons on archaeology. Archaeology is not the apologetic hammer. It does not destroy the faithless or the faithful. It can give us insight into Scripture and the customs and significance of its setting, but there is nothing in the archaeological record that destroys or proves the faith.

POINTS FOR HOME

1. *“The people shouted a great shout, and the wall fell down flat”* (Josh. 6:20).

This story firmly teaches a lesson about trusting God and the directions he gives. The Israelites were under new leadership; they were beginning a new phase of their lives, no longer to be wilderness wanderers but instead warriors and settlers. During this time of change, they sought the voice of

the Lord, and when he gave them direction, they followed it. The results speak for themselves.

This is the import of Proverbs 3:5-6, “Trust in the Lord with all your heart, and do not lean on your own understanding. In all your ways acknowledge him, and he will make straight your paths.”

As your life undergoes changes, purposely seek out the direction of the one who never changes.

2. *“Not many of you should become teachers, my brothers, for you know that we who teach will be judged with greater strictness”* (James 3:1).

I type that verse with fear and trembling. Nobody is perfect, no one teaches 100 percent correctly, and every lesson has a mistake or error in it, yet there is a challenge for those who teach. It is to try and give the very best and most accurate lesson possible. Short cuts are rarely right in lesson preparation. Books like Benjamin’s should come as a warning to be careful in our preparation.

BUT HERE’S THE RUB: nobody does it right all the time. We all teach, even if we say nothing we are teaching by people watching how we live. So we learn that we should live and teach with deliberate care to the effect on others. Yet in truth we need to always be careful how we are judging others, for surely none of us stand perfect.

The challenge is to keep humility in our life and teaching, even as we strive to do the best we can.

3. *“Cursed before the Lord be the man who rises up and rebuilds this city, Jericho”* (Josh. 6:26).

The city of Jericho lay dormant for 400 years after the time of Joshua. That much time is an eternity for the weathering and erosion of mud bricks. The city, its idolatry, its rebellion to God’s people and purpose were removed. The witness to God’s destruction was the fading away of each remnant of the city. The witness to God’s destruction was never set to be the continued presence of the city.

Make a decision to let God build his goodness in your life, and remove all semblance of sin. Let that be your daily testimony to him and then watch over time at the changes in you.

WANT MORE? Start (or keep) reading Judges. Which character do you relate to? Email me and let me know who and why! Emails remain anonymous! Email us at wantmore@Biblical-Literacy.com.