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EXCAVATING ARMAGEDDON



We have already made a number of references in previous chapters to the site of Megiddo in Israel, which is perhaps better known as biblical Armageddon. The very word *Armageddon* comes from *Megiddo* because—in Hebrew—"Har Megiddo" means the mound or mountain of Megiddo. Originally the word was written Harmageddon in Greek. Over time it became Armageddon.

There is nothing quite like walking across the top of a mound like Megiddo, where people lived for three thousand years, wondering what lies beneath your feet. It could be anything—or nothing. I had the pleasure of excavating at Megiddo for ten seasons, digging every other year from 1994 to 2014, and felt that way every morning when walking onto the site each day during the excavation season. What am I walking over? What would I find if I were to stop right where I am and begin digging?

We have already noted several times that the manmade mound at Megiddo towers more than seventy feet above the Jezreel Valley and

that it contains at least twenty separate cities, built one on top of another. The earliest dates back more than five thousand years, while the most recent dates to about the time of Alexander the Great in the fourth century BCE.

The valley itself is in the northern part of Israel and is shaped a bit like a triangle on its side—the tip is over by Haifa, on the Mediterranean Sea, and the broad base is over by the river Jordan. It's about twenty or thirty miles from east to west, but only between three and seven miles from north to south. It's a perfect place for a battlefield, which may explain why at least thirty-four battles have been fought here over the past four thousand years. Most were fought for control of Megiddo or nearby areas, since Megiddo looms over the entire valley, through which ran the Via Maris—the road that was called the Way of the Sea and led from Egypt to Mesopotamia and back again. The Egyptian pharaoh Thutmose III once said that the capturing of Megiddo is like the capturing of a thousand cities.

Many famous people have fought at Megiddo or in the Jezreel Valley: Thutmose III in 1479 BCE and Deborah, Barak, Gideon, Saul, Jonathan, and Josiah from the Bible. The Romans fought here too, as did the Crusaders, the Egyptian Mamluks, Mongols from Central Asia, Napoleon, and even British General Allenby in World War I. Only Alexander the Great, of all the invaders of this region, did not fight a battle at or near Megiddo, because the area seems to have simply given in to him. But, of the battles at Megiddo, the most famous is still to come—the battle of Armageddon, described in the Book of Revelation. This is to be the penultimate battle between good and evil, which the forces of good will win; a battle that will be foreshadowed by numerous signs, including an earthquake, plague, hailstones, and a river of blood 180 miles long.

Probably the two best-known archaeological remains at the site are the water tunnel, which was dug one hundred feet straight down and then three hundred feet straight out from near the edge of the mound, so that the inhabitants could get to the external spring without being subject to attack by enemy forces, and the so-called Solomon's Stables, a set

of long stone hallways punctuated with pillars that might not be stables and almost certainly weren't built by Solomon.

It was Gottlieb Schumacher who conducted the first excavations at Megiddo, from 1903 to 1905. He followed the excavation methods current in his day, working at the same time as Flinders Petrie and Howard Carter in Egypt. Since those were still the early days of archaeology, he employed hundreds of workers to dig a huge trench right through the middle of the mound, much like Heinrich Schliemann had done at Troy some thirty years earlier. He also dug smaller trenches at various other places on the top of the mound, but it was the great trench that yielded some of the most interesting finds, including a tomb from the Middle Bronze Age that held the bodies of a number of men and women, along with gold objects and other finery.

Schumacher thought that he had found the bodies of the ruling family of Megiddo from that period, which dates to the middle of the second millennium BCE, and he may well have. Unfortunately, most of the objects cannot be located now.

He also found one of the most famous objects ever to be discovered at Megiddo, namely an oval seal about an inch and a half wide made of a type of stone called jasper. It has a lion inscribed on it, along with the words "Shema, servant of Jeroboam." It's not clear which Jeroboam this is, because there are two kings with this name mentioned in the Bible, but it's definitely one of them. Unfortunately, Schumacher sent it to Istanbul as a gift to the Ottoman Turkish sultan who ruled the area at that time and nobody knows where it is now.

Schumacher's workers also missed things while they were digging, threw them on the back dirt pile, or simply piled them by the sides of their trenches—especially in the case of stones from walls that they took apart. One of these stones turned out to have a cartouche of the tenth century BCE Egyptian pharaoh Sheshonq on it, but the workers didn't notice it.

It was only when the next expedition to Megiddo began that the stone was recognized for what it was—part of a monumental inscription that probably stood about ten feet high. It would have been erected at the site as a victory inscription after Sheshonq captured and then occupied the city. Years or decades later, it was taken down and broken apart and was reused in a wall of a new building. This is where

Schumacher's workers would have found it, but since they missed it and simply piled it on the side of the trench, we don't know from what level or city it comes. If we knew, it would be wonderful, because we could then attach that city to a known person, since Sheshonq is not only known from Egypt but probably also from the Bible, where he is called Shishak.

It was left to a team from the University of Chicago to identify this stone, which they did when they were collecting material to use in building the staff headquarters at the site. The Chicago team dug at Megiddo for approximately fifteen years, from 1925 to 1939; their efforts were halted only by the outbreak of World War II.

They lived at the site for much of the year. The Jezreel Valley was still swampy at that time and so most of them suffered from malaria; finally, the swamps were drained. The overall project was under the direction of James Henry Breasted, founder of the famous Oriental Institute at the University of Chicago, with a series of field directors who included Clarence Fisher, Gordon Loud, and P.L.O. Guy (whose initials were okay for then but mean something entirely different now).

The Chicago expedition was at the forefront of a new type of archaeology, which was more careful and scientific than the type practiced by Schumacher two decades earlier. Courtesy of Petrie, they now knew about stratigraphy and about pottery seriation, that is, the changes in pottery styles over time, as we have discussed in "Digging Deeper 2," so that they could tell one city from another and get a good idea of its date, at least relatively speaking.

Funded by money from John D. Rockefeller, Jr., the Chicago team started out doing what we call horizontal excavation—in which they tried to expose one entire layer over the entire site, record it, draw it, photograph it, and then pick it up and remove it all, so that they could then expose the next layer down. They did that for the very top level, or Stratum I as they called it, dating its end to the mid-fourth century BCE; then also for Stratum II, from the sixth and fifth centuries BCE; and Stratum III, which dates to the Neo-Assyrian period, or the eighth and seventh centuries BCE, before they started to run out of money.

Soon thereafter, they switched to vertical excavation for the rest of their time at the site. And that's how we know that there are at least

twenty cities one on top of another within the mound, since they dug all the way to bedrock in what is now known as the Chicago Trench.

The Chicago team also was still prone to using the biblical account to buttress their findings at the site. When they were excavating a series of long parallel rooms that were large enough to have held a bunch of horses, for instance, they turned to the book of I Kings to help with their identification. There they found two passages that they thought were relevant, in 1 Kings 9 and 1 Kings 10.

The first one reads

> And this is the account of the forced labor which King Solomon levied to build the house of the LORD and his own house and the Millo and the wall of Jerusalem and Hazor and Megiddo and Gezer. (1 Kings 9:15)

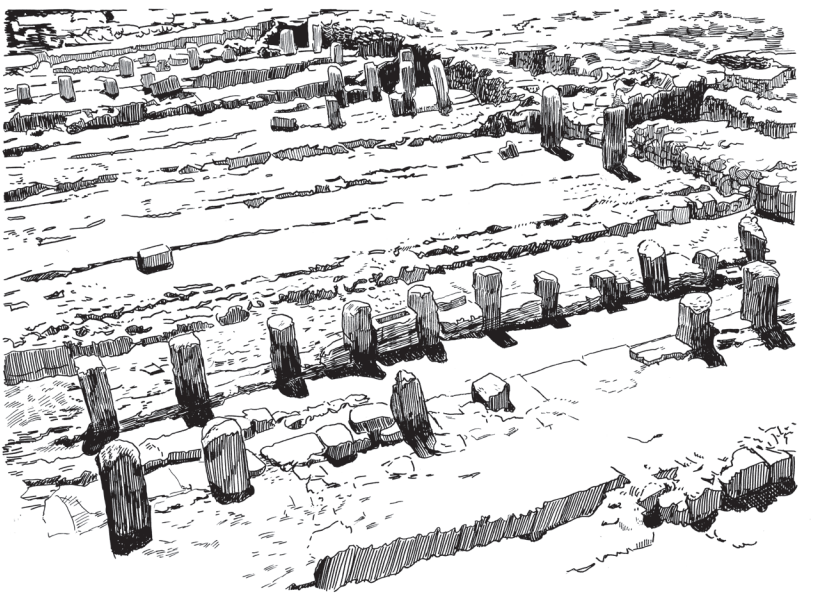
The second one reads

> And Solomon gathered together chariots and horsemen; he had fourteen hundred chariots and twelve thousand horsemen, whom he stationed in the chariot cities and with the king in Jerusalem. (1 Kings 10:26)

Combining these two, they decided that Megiddo must have been one of Solomon's chariot cities and that the structures were indeed stables for horses dating back to the time of Solomon in the tenth century BCE. Today, the tour guides still refer to them as Solomon's Stables.

Similar long-roomed structures have been found at other sites. And though it is quite likely that these at Megiddo are indeed stables, it also is possible that they were used as storehouses, or as barracks for soldiers, or even as a suq or marketplace, all of which have been suggested by scholars.

Moreover, later radiocarbon dating and analysis of the pottery found within these structures at Megiddo now indicate that they are unlikely to have been built during the time of Solomon. They are much more likely to date at least a century later, perhaps to the time of Ahab and Omri, kings of the Northern Kingdom of Israel, or even to the time of



"Solomon's Stables" at Megiddo

Jeroboam II, one of their successors. Thus, Solomon's Stables at Megiddo might not be stables and are almost certainly not Solomon's.

The next person to lead an excavation at Megiddo was the famous Israeli archaeologist Yigael Yadin, who came to Megiddo for a few brief seasons in the 1960s and 1970s. Yadin did limited work at the site to investigate a few research questions. He also used it as a training dig for his graduate students, many of whom subsequently went on to become leading archaeologists in their own right.

One of the things that Yadin and his team uncovered was the foundations of what appeared to be a large palatial structure, which he called Palace 6000. Only the foundations remained because the building lay directly underneath the northern set of "stables" that the Chicago team had found. The large blocks from Yadin's Palace 6000 had been reused in the later building to make the troughs that the Chicago team claimed were used to put the food, and perhaps the water, for the horses. It was this palace, Yadin thought, that had been built by Solomon, not the later stables directly above it. But he didn't have any proof for this, except for those biblical passages and the fact that he thought

the palace was built at the same time as a large entrance gate to the city itself.

This large gate had six chambers and appeared very similar to one that Yadin had found previously at Hazor. He also figured out that there was another one at the site of Gezer, part of which had been excavated previously but misidentified. Using the same passage from the Bible that mentions Megiddo, Hazor, and Gezer as having been fortified by Solomon, Yadin assigned them all to the tenth century BCE—that is, during the time that Solomon ruled.

This is not the way that archaeology is supposed to work, however, at least in the Mediterranean region. The gates, and the associated buildings, should be dated by the pottery that is found within them, not by biblical passages that may or may not be related to them. Thus, when Israel Finkelstein looked again at the pottery found by both the Chicago team and by Yadin, he said that it dated both the gate and the palace to the ninth century BCE, not to the tenth century and the time of Solomon. If he is correct, then neither of the levels that previous excavators have dated to the time of Solomon is actually from that time period. The details are still being debated, even twenty years after Finkelstein dramatically suggested altering the dating, and so the jury is still out.

Finkelstein has been leading the new set of excavations at Megiddo since 1992, with a series of codirectors, including myself. I started digging with him at the site in 1994. I began as a volunteer team member, even though I already had fifteen seasons of experience, because I wanted to be part of a large-scale expedition to a well-known site in Israel. I rose through the ranks and was appointed associate director in 2006 and then codirector in 2012. I held that position until I retired from the project a few years later.

I was part of the team that was fortunate enough to re-excavate the area in which both Yadin's Palace 6000 and Chicago's northern stables were located, and so I have firsthand knowledge of the issues involved in their redating. I've also dug in most of the other areas at one point or another, each having its own points of interest.

For instance, in the part of the site that we call Area H, the buildings now on the surface are two palaces that date to the Neo-Assyrian period, in the eighth century BCE. The Chicago team exposed them but then

didn't dig any deeper in the area. We have excavated what is called a step trench down the side of the mound here, so that we can get a glimpse into the history of the site beneath the Neo-Assyrian level, just like Chicago did on the other side of the site. By the end of the 2014 excavation season, we had dug more than twenty feet down from where we started in 1994 and had reached back into levels dating to the Middle Bronze Age, in the middle of the second millennium BCE (possibly contemporary with the graves found by Schumacher one hundred years ago). Along the way, we encountered several layers of ash, burning, and other signs of destruction, which mark the dramatic end of several of the cities that once occupied the site.

In another area, dating back to the third millennium BCE and the Early Bronze Age, we may have found one of the largest temples ever discovered in the ancient Middle East. It stretches across the entire excavation area that we call Area J, on the eastern side of the mound, where the famous round altar discovered by the Chicago excavators also is located. The large number of bones discovered in this area has led some tour guides to assert that child sacrifice was performed on this altar by the Canaanites. Our excavations yielded thousands of bones from here, which were mostly from sheep and goats, but also from cattle, and even from lions, but none were from any children.

Also on the eastern side of Megiddo, but further south along the edge of the mound, we also dug Area K and reached Middle Bronze Age levels after starting in Neo-Assyrian levels. Here, one of the most interesting cities was destroyed in what was probably the late tenth century BCE, if our dating is correct. When it became clear, back in 1998, that we were digging the remains of a house that had been destroyed at that time, we employed a technique known as fine gridding to help us dig. To my knowledge, this was the first time the technique had been employed at the site and was introduced by Assaf Yasur-Landau—who would later become codirector with me at the site of Tel Kabri, where we use it all the time.

Working with a fine grid simply means taking each square, which normally measures five meters by five meters, and splitting it into smaller squares, each measuring one meter by one meter. By recording which finds, including pottery fragments, come from each of these smaller squares, it is possible to later reconstruct with greater precision

exactly what was found and where. I should note that archaeologists in North America do this so frequently that they don't even bother using a separate term for it—and they frequently then divide the one-meter squares into separate quadrants to produce even finer provenience measurements for the materials that are recovered.

As a result of working in this manner at Megiddo, we were able to identify the function of each room of the house with a reasonable degree of precision, from the kitchen to the living room to the bedroom. Several skeletons were found in the house as well, including that of a woman and several children; most were in the area that we had identified as the kitchen.

The big question was, What had caused the destruction of this Canaanite city and of the house? Some thought that invaders, such as perhaps King David or some other group of Israelites, might have done it; others suggested that this might have been the city destroyed or captured by the Egyptian pharaoh Sheshonq when he left his inscription at the site.

The data suggest to me that an earthquake caused the destruction. As an archaeologist, I will be the first to admit that it is frequently hard to tell a destruction resulting from natural causes such as an earthquake from that produced by invaders, but in this case a couple of things stand out to me. First, the walls are tilting and some are out of alignment, an indicator of some strong force moving them. Second, there isn't any evidence of violence accompanying the bodies in the house: no arrowheads, swords, spears, or cut marks on bone. In short, I think Mother Nature caused this destruction, although I cannot prove it for sure.

In another area at Megiddo, at the southern edge of the mound, we do have evidence of a battle, but not from the time period that we initially expected. This too is an example of the surprising curveballs that archaeology can throw when least expected. It was in 2008 that we began to clear away the underbrush from an area where the University of Chicago had excavated in 1925 and 1926. Nobody had been in the area since, or so we thought. We had the photographs and drawings that the Chicago archaeologists had made and we knew that they had found rectangular buildings with small rooms that dated to the Neo-Assyrian period in the eighth century BCE.

When we began clearing the area, which we had renamed Area Q, we found that some of the rooms were now round, rather than rectangular. In and around them, we found a number of bullet casings—that is, the spent remains of bullets that had been ejected from a gun, which we thought at first were the result of weekend hunters or someone doing target practice. As more and more of these bullet casings came to light, we began to realize that perhaps something else had taken place here. And so, we started to collect them, as if they were archaeological artifacts, which indeed it turned out they were.

One of my students, Anthony Sutter, took a number of the bullet casings back with him to the United States for study. When he cleaned off the back of the casings, he was able to read the letters and numbers stamped into the metal, which are known as headstamps. These identify the maker of the bullets and the year in which they were made. I took back others and cleaned them off as well. All of them, both his and mine, said either 1948 or earlier. Not one of the several hundred that we looked at then, or the others that I examined after the 2010 and 2012 seasons, had a later date, and it quickly became clear that we were looking at the material remains of the battle that we knew had taken place at Megiddo during the war in 1948 that resulted in the establishment of the state of Israel.

It also became clear that we were engaging in what is called battlefield archaeology—sometimes called investigations of fields of conflict. Such investigations have been applied in Europe to battlegrounds dating to World War I and World War II. It also has been used in the United States, for instance in the area of the Little Bighorn, in what is now a national park in the state of Montana, where Custer had his last stand. There the archaeologists employed an army of metal-detector enthusiasts to map the bullet casings, which shed new light on how the battle transpired. I've often thought that we could do the same at Megiddo and figure out the route by which the Israeli forces attacked the mound before taking it over.

Now we knew why some of the rectangular rooms originally excavated by Chicago had become round. Someone had moved the rocks of the Neo-Assyrian buildings in 1948 to form foxholes and firing pits in which to crouch and to fire machine guns toward the British police station, now a prison, located across the fields about a kilometer away.

What we didn't know was who had created the foxholes and firing pits, and who had fired the bullets during the battle—the Arab defenders or the Israeli attackers. And this is where things took an unanticipated turn and showed how archaeologists can turn to the most unexpected places to find their answers. Although we never did find out for certain who had created the foxholes, we *were* able to figure out, within a reasonable degree of certainty, who had fired the bullets.

We knew that we had a lot of bullet casings from 8-millimeter (7.93 mm, to be precise) bullets that would have been fired from one or more machine guns, most likely placed in the firing pits. We had even been able to narrow down the type of machine guns that would have been available to shoot the bullets back in 1948 to three specific types: two were German and one was Czech. But then we were stuck. We didn't know anyone who had any of those types of machine guns, let alone all three types, so that we might try a ballistic comparison.

It was only when I happened to mention our interesting finds, and our dilemma, to the chairman of our forensic sciences department at George Washington University, during an administrative retreat, that the breakthrough occurred. He was intrigued enough by my account that he gave me the name of an adjunct instructor whose primary job was at the US Bureau of Alcohol, Tobacco, and Firearms. She, in turn, put me in touch with someone in the bureau who worked at a little-known place where they keep more than six thousand guns, from all time periods and places. When I mentioned to him the three types of machine guns that we thought our bullets were from, he said, "Yep, we've got those." It also turned out that he had been an archaeology major as an undergraduate, and so he was very interested in the challenging problem that I presented—how to identify the type of machine gun(s) that had fired our bullets more than sixty years earlier.

In the end, he fired all three types of machine guns while I watched. We then took those recently fired bullet casings and went back to the original woman whom I had first contacted. She put the new casings and the Megiddo casings side by side into a special microscope; first the ones from one of the German machine guns, and then those from the other type, and then finally the ones fired by the Czech machine gun. The Czech ones matched up perfectly with ours from Megiddo, with the same type of firing pin impressions created and so on. We had a

definite identification. We had solved the case: "CSI Megiddo," a cold case from 1948. It was a spectacular moment. Anthony Sutter and I later collaborated on an article about the whole topic in the *Journal of Military History*.

The excavations at Megiddo have recently been at the forefront of scientific archaeology in another way. That's because the codirector of the project, Israel Finkelstein, was awarded a large grant from the European Union Research Council in 2009, which allowed him to incorporate newer scientific advances into biblical archaeology. One of the places where he used these techniques was at Megiddo, where he brought in specialists to do microarchaeological studies: for example, to examine the dirt and other material found on floors after they were abandoned, which can yield information about the types of vegetation in the area, the length of time that the building was abandoned before being reoccupied, and so on.

In addition, in 2012 the news media began reporting that a cache of gold jewelry had been found at Megiddo. The cache included eight small gold hoop earrings and a large ornate ring, plus many small beads that had probably once been part of a necklace or bracelet. Stylistically, they all date to about the eleventh century BCE or so, if not a bit earlier, and undoubtedly belonged to a fairly wealthy Canaanite woman who hid, or kept, them in a jar and never retrieved them for whatever reason.

The jewelry was found still in the smallish ceramic jar, but it took a while for the archaeologists to realize that it was inside—nearly two years to be precise. The jar had been discovered completely intact during the 2010 excavation season. It was full to the brim with earth, and so it was sent to the conservation laboratory to be carefully excavated. The conservators had many previous commitments, and so the jar sat on a shelf for quite some time before one of them was able to take a look at it. When she did finally begin to work on it and started to carefully remove the earth inside it, out came the cache of jewelry, much to the surprise—and pleasure—of the conservator and the members of the Megiddo Expedition, who had not anticipated such a discovery.

The excavations at Megiddo are continuing. As mentioned in a previous chapter, recent work off the mound by Matt Adams and Yotam Tepper has definitively identified the site of the Roman camp that was established next to the ancient mound in the second century CE.

I still think back to the days when I would walk over the site in the chill of the early morning, wondering what lay beneath my feet. Though I no longer codirect the excavation, along with everyone else I will be watching and waiting to see what else will be uncovered in future seasons at Armageddon.