

# The Sickles of Beth-Shemesh

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Now the people of Beth-Shemesh were reaping their wheat harvest in the field ...” is how 1 Samuel 6:13 describes the pastoral scene that greeted the miraculously returned Ark of the Covenant from the Land of the Philistines. Given the archaeological description of this era as Iron Age I (12-11th centuries BCE), one might imagine that the sickles in the hands of these Biblical reapers were made of metal, but recent archaeological evidence shows that high-quality stone tools remained in widespread domestic use long after the official close of the Stone and Bronze Ages. That is, new technologies did not rapidly replace older ones that worked well and were cheaper, simpler or more readily available.

ISF grantee Dr. Shlomo Bunimovitz has led eleven seasons of detailed excavations at Beth Shemesh. His team has used a wide variety of indicators, including flint technology, to follow its transition from a rural to a monarchical urban society. The date and degree of this transition has become one of the most hotly contested issues in Biblical archaeology.

For example, the 245 stone tools and 685 waste pieces (the byproducts of tool manufacture) found by the team, and analyzed by Jeffrey Rose, shown an interesting pattern. Locally available stone is unsuitable for high-quality or high-tech tools, and was used mostly for throwaway flake tools for casual use. Fortunately, fine flint was available from selected other parts of Israel, either from outcrops (opaque) or wadi cobbles (semi-translucent). The sophisticated flint blades fitted into a wooden or bone sickle handle (see figure). The low number of imported flint cakes and the low amount of flint debris found at Beth Shemesh to-date, compared to the number of blades found, suggest that most blades or whole sickles were produced by specialists elsewhere and then disseminated for a price, via a regional trade network. Caches of 212 unused sickle blades unearthed at Gezer (12-11th century BCE) suggest what such a secondary production center may have looked like. The widespread standardization of blades at different sites also supports this conclusion.

Almost all of the 167 sickle blades (67% of all the tools) found at Beth Shemesh were large geometric blades, typical of the old flake-blade technology, which continued to flourish throughout the Iron Age. This despite the discovery, just this season (2001), of an iron-working smithy on the site, dating back to the 9th century BCE!

As in other ancient Israeli sites, flint sickle blades rapidly and almost completely disappeared from Beth Shemesh by the beginning of the subsequent Iron IIa period (10-9th centuries BCE). Technological advances in early metallurgy, particularly smelting, had finally made iron tools cheap and available enough for widespread domestic use, sealing flint's fate (shades of the laser versus dot-matrix PC printer almost 3000 years later!). This change also coincides with broader social changes at the site.

In the Iron I period, Beth Shemesh was a small rural farming village. Iron IIa Beth Shemesh shows signs of a rapidly expanding urban population and monumental architecture. Massive city walls and a large underground cistern were constructed, with the expanding urban population perhaps dislocating the agrarian population to outside the city walls. These and other trends tend to suggest a transition to monarchical organization and administration in the Iron IIa period, consistent with Biblical descriptions of Beth Shemesh during Solomon's reign (1 Kings 4:9).

