

THE STONE ANCHOR FROM TEL MIKHAL (TEL MICHAL)

JACOB SHARVIT

A triangular stone anchor with a socket on one side was found in the 1996 excavation at Tel Mikhal (B7134; Fig. 1). The anchor was found in Area B (see Gorzalczany, this volume), disturbed in the past by mechanical equipment. In the eastern section, part of a room (L512) was exposed, hewn into the *kurkar* and lined with mud-brick walls that were standing six courses high. Middle Bronze Age II and Persian-period sherds were found in the room. West of this room the poor remains of a wall (W445) were uncovered (Gorzalczany and Rand 1999:49; Gorzalczany, this volume). The stone anchor was discovered in the western side of this wall, overlapped by a large fieldstone on its flat side with the hole pointing down, and the apex pointing to the west.

The anchor (weight 63 kg) is a triangular-shaped flat slab of limestone with rounded corners and one unfinished elliptical hole (Fig. 2). The front and the back faces are extremely well fashioned but the sides have been roughly

dressed, forming a slightly asymmetric outline. No tooling marks are visible on the faces or sides.

Discussion

The visual characteristics of the stone (type, shape, hole position and weight) indicate that it is an unfinished anchor. The incomplete hole shows that the anchor could not have been used. According to the anchor typology published by Frost (1963:7–10), this anchor belongs to the 'weight anchors' group. These one-hole anchors weigh enough to catch in reefs or rocks on the sea bottom where their sheer mass suffices to moor the ship securely. As sailors cannot be expected to handle more than 50 kg, especially on a moving boat, anything larger would certainly have been lowered mechanically (Frost 1995:68). This 63 kg anchor belongs to the medium-size anchor group, which can probably be prepared for a large vessel capable of long distances (Kingsley and Raveh 1996:31).

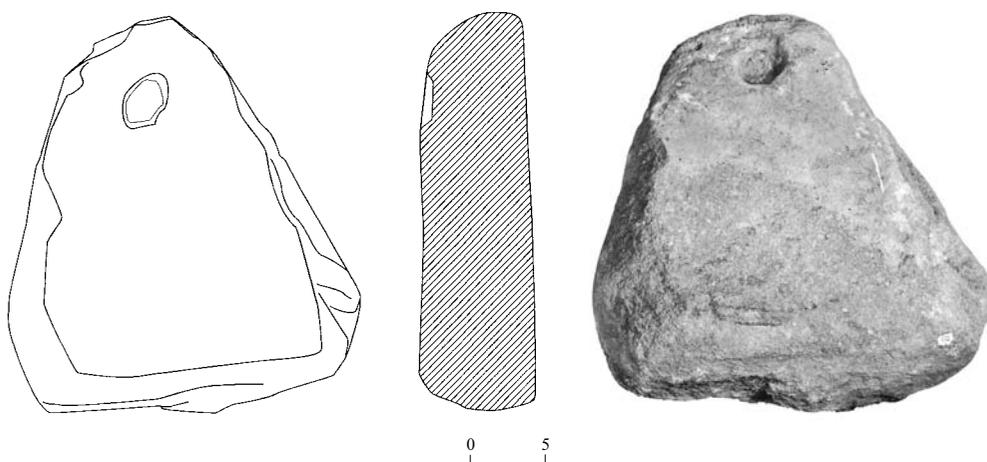


Fig. 1. An unfinished stone anchor.

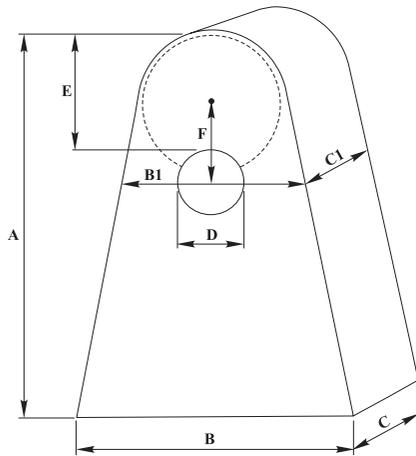


Fig. 2. Dimensions of the stone anchor (drawing by S. Ben-Yehuda, following Galili, Sharvit and Artzy 1994:99, Fig.17): (A) Max. height 53 cm; (B) Max. lower width 47 cm; (B1) Max. width at hole center 25 cm; (C) Max. lower thickness 15.5 cm; (C1) Max. thickness at hole center 12.5 cm; (D) Hole diam. 5.0×7.5 cm; (E) Distance from hole to top of anchor 8 cm; (F) Hole depth 2 cm.

Dating anchors has always been problematic. Some date to the Early Bronze Age and are still used in some parts of the Eastern Mediterranean. Frost (1973:404–405) suggests that stone anchors, which are too heavy for one man to handle (between 50–700 kg), antedate the introduction of combined metal and wooden anchors in the Iron Age. She also mentions that since lead-stocked anchors became current on all important crafts, anchors made of stone were certainly used by those less well-off. Since the poor had smaller boats, the size of stone anchors decreased to less than 50 kg from the Iron Age onward (Frost 1973:405).

One important source for dating and studying anchors comes from reused anchors discovered

during archaeological excavations on stratified land sites. Diagnostic anchors of a particular shape found in archaeological excavations can be compared to anchors found on the sea floor. Thus, they can be dated and their provenance determined. Numerous one-hole stone anchors have been recorded on the seabed of Israel near the shore and only few were found within a securely datable context (Galili, Sharvit and Artzy 1994; Raban and Galili 1985). Based on the typology this type was attributed to the Late Bronze Age, similar to anchors that were found at Kition (Frost 1985).

The location of the Tel Mikhal anchor in MB II strata indicates a date during that period. The discovery of Bronze Age stone anchors at Tel Mikhal seems to be quite common. Singer-Avitz (1989:355–356) published the first in the 1980s, following many others from Bronze Age sites in the Levant (Frost 1985; 1991). Anchors have often been found singly or in groups placed in the foundation courses of walls. At Ugarit, anchors were discovered in walls connected to the Temple of Baal. The foundation walls of every temple uncovered at Kition contained anchors whose votive nature is further emphasized by incised markings, cupules and traces of ash from burning (Frost 1991:359).

Although no traces of burning were found, it is possible that this unfinished anchor had a votive or symbolic function like the *shfifon* (Wachsmann 1988:262–265). A votive function might explain why the anchor hole was not finished (Frost 1991:357–358), as in other cases of the *shfifonim* found in Israel at Tel Bet Yerah, Kibbutz Bet Zera' and Kibbutz Sha'ar Ha-Golan (Wachsmann 1988:263; Figs. 12.14: A; 12.16).

REFERENCES

- Frost H. 1963. From Rope to Chain: On the Development of the Anchor in the Mediterranean. *The Mariner's Mirror* 49:1–20.
- Frost H. 1973. Anchors, the Potsherds of Marine Archaeology: on the Recording of Pierced Stones from the Mediterranean. In D. Blackman ed. *Marine Archaeology*. London. Pp. 397–410.

- Frost H. 1985. The Kition Anchors. In V. Karageorghis and O. Demas eds. *Excavations at Kition V: The Pre-Phoenician Levels I*. Nicosia. Pp. 281–321.
- Frost H. 1991. Anchors Sacred and Profane, Ugarit-Ras Shamra, 1986: The Stone Anchors Revised and Compared. In M. Yon ed. *Ras Shamra-Ougarit VI: Artes et industries de la pierre*. Paris and Lyon. Pp. 355–410.
- Frost H. 1995. Where did the Bronze Age Ships Keep their Stone Anchors? In H. Tzalas ed. *Tropis III*. Paris. Pp. 167–175.
- Galili E., Sharvit J. and Artzy M. 1994. Reconsidering Babylonian and Egyptian Stone Anchors Using Numeral Methods: New Finds from the Israeli Coast. *IJNA* 23:93–107.
- Gorzalczany A. and Rand Y. 1999. Tel Michal. *HA-ESI* 109:49–50.
- Kingsley S.A. and Raveh K. 1996. *The Ancient Harbour and Anchorage at Dor, Israel* (BAR Int. S. 626). Oxford.
- Raban A. and Galili E. 1985. Recent Nautical Maritime Research in Israel. *IJNA* 14:321–356.
- Singer-Avitz L. 1989. Stone and clay objects. In Z. Herzog, G. Rapp and O. Negbi eds. *Excavations at Tel Michal, Israel* (Tel Aviv University Institute of Archaeology Monograph Series No. 8). Minneapolis and Tel Aviv. Pp. 355–356.
- Wachsmann S. 1988. *Seagoing Ships and Seamanship in the Bronze Age Levant*. London.