

L'urbanisation de la
Palestine à l'âge du
Bronze ancien

Bilan et perspectives des recherches
actuelles

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EARLY BRONZE AGE SETTLEMENT IN NORTHERN SINAI: A MODEL FOR EGYPTO-CANAANITE INTERCONNECTIONS

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A. SURVEY AND SITES

Any reconstruction of Egypto-Canaanite relations must be firmly founded on the evidence from northern Sinai, the land bridge that connects the Nile Valley with Asia. Since prehistoric times this land of inhospitable sand dunes has been the key to Egypt's contact with, or isolation from, Asia. Until recently the only material indication of an Egyptian presence in Sinai in the late Predynastic period was a group of storage-jars, some marked with serekh graffiti, collected by Clédat in 1910 at the site of el-Beda in northwestern Sinai (Clédat 1913)¹. However, in 1972-1982, during a systematic survey of northern Sinai between the Suez Canal and the Gaza Strip (Fig. 1), an expedition from Ben Gurion University recorded nearly 250 settlement sites represented by material culture of the Early Bronze I-II or late Predynastic and early Archaic periods (Oren 1973). The survey's results now enable us to reconstruct the history of settlement along the Sinai land bridge and gain a better understanding of Egypt's foreign policy and cultural exchanges with Canaan.

The sites under review were encountered in an area immediately to the south of the Bardawil Lagoon and roughly parallel to the modern road and railway line between Qantara and Raphia (Fig. 2). The settlement pattern in northern Sinai during this period is characterized by clusters of 10-20 sites, averaging about 1.5 dunams in size and distributed densely (50-300 m. apart) over an area of a few square kilometers (Fig. 3). The

1. Clédat's description of el-Beda suggests that this was a temporary campsite. The discovery of complete jars whose surface was not calcium-incrusted may indicate that they belonged to a burial site. The site was relocated by us in May 1972 but was, unfortunately, found to be entirely buried under a towering sand dune. A scatter of Archaic sherds was recorded nearby. It is not unusual to find in the literature remarks such as "store house at Beda" or "a depot of storage jars at El Beda on the road to Palestine" (Trigger 1983 : 46 ; Needler 1984 : 29).

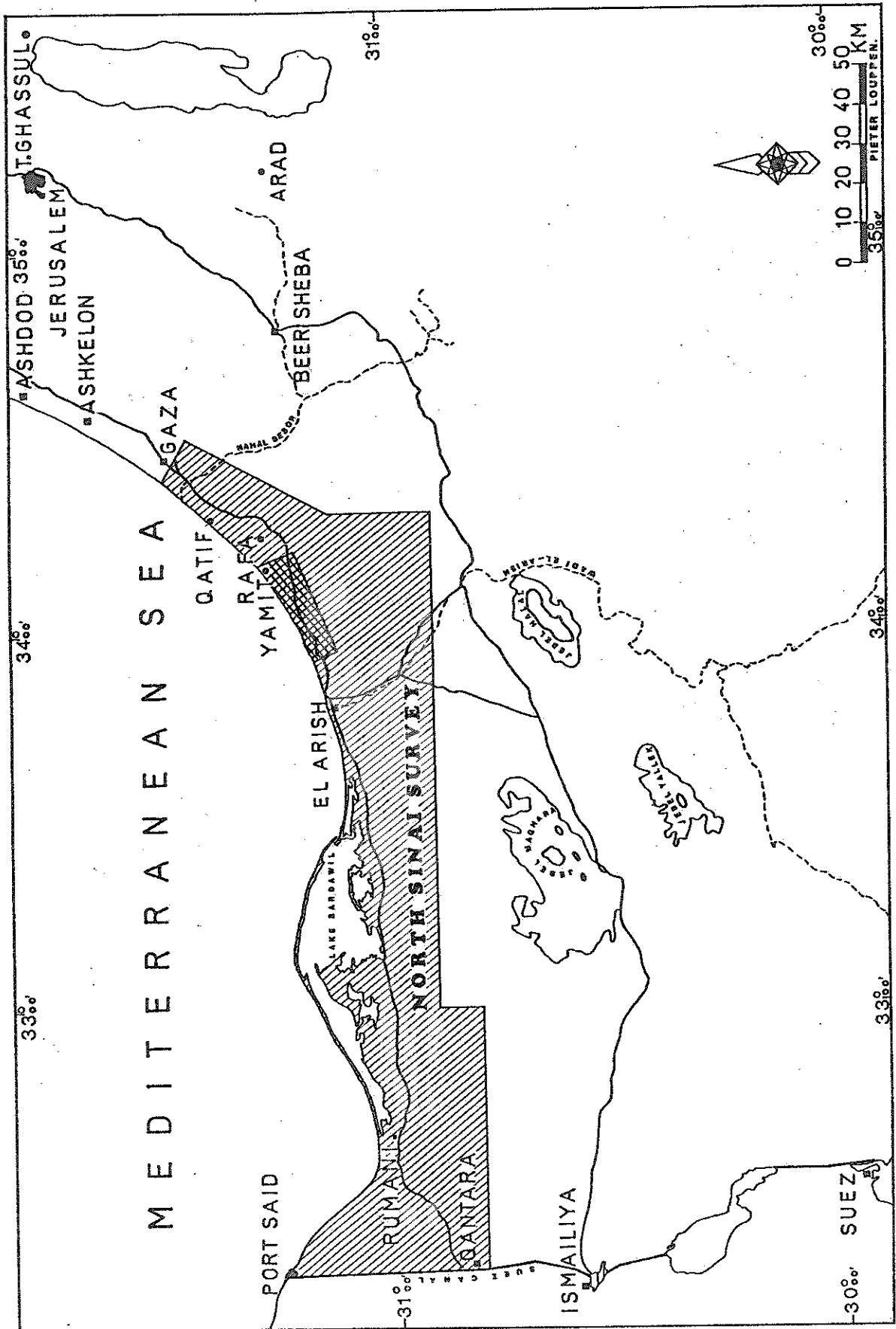


FIG. 1. — Map of northern Sinai with area surveyed by Ben Gurion University Expedition.

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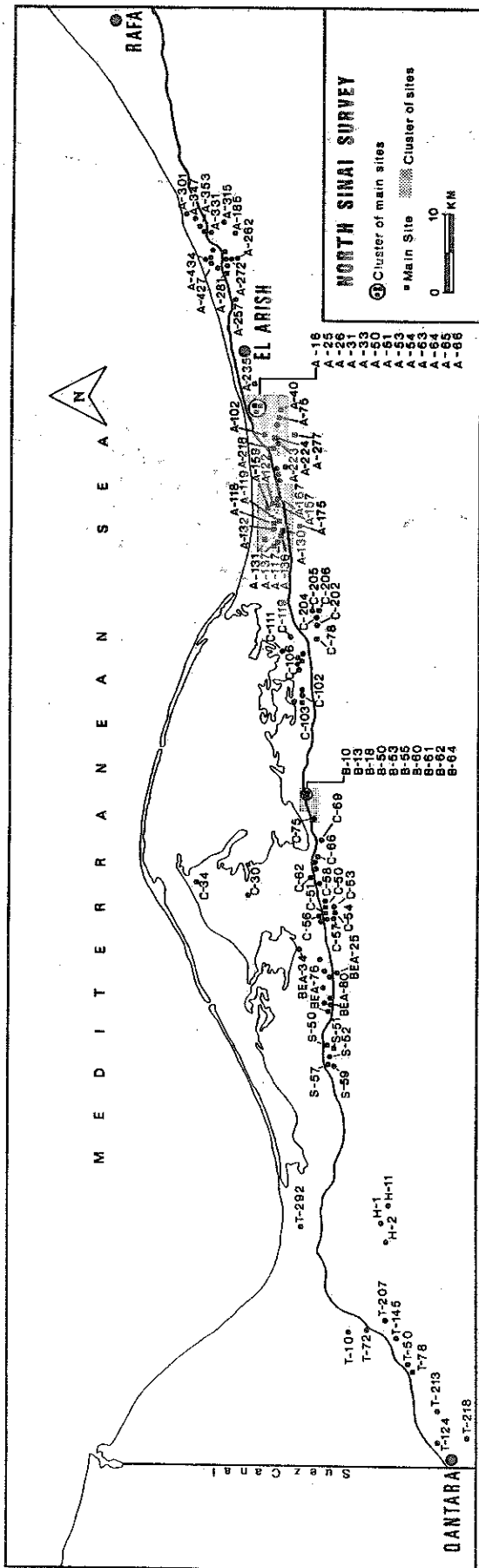


FIG. 2. — Map of North Sinai survey with Early Bronze Age sites and cluster.

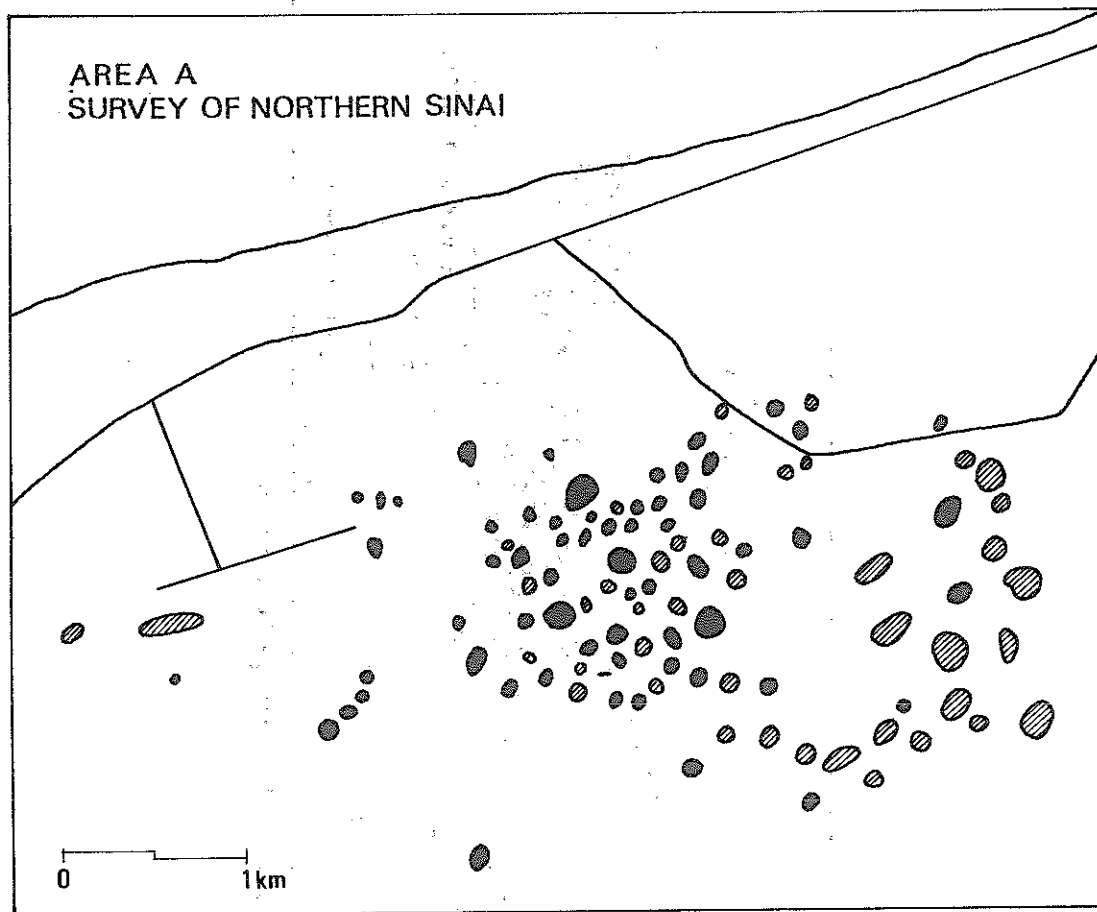


FIG. 3. — Distribution map of Early Bronze Age sites in Area A near el-Arish.

sites were located on exposed soil surfaces or on consolidated inactive sand dunes and, as a result of the severe aeolian erosion, were found in most cases partially or completely deflated. Because no architectural remains of mudbrick or stone were observed, it was proposed in 1973 that perishable materials were used in the building of huts or tents for dwellings (Oren 1973 : 200). However, as the survey progressed, it was noted that many of the larger sites contained preserved patches of disintegrated mudbrick material that required a modification of our preliminary interpretation. The erosive action of wind-blown sand on mudbrick building material in northern Sinai is generally so destructive that it is unlikely that quantities of brick architecture would survive from any period, particularly one so distant. However, the North Sinai Expedition did occasionally record traces of brick material at sites from the New Kingdom period and even of the Roman period, which apparently had once been occupied by impressive brick architecture². In the light of this we propose that there were brick structures at our Early Bronze Age sites as well. It may even be argued that the brick structure at the En Besor way station may serve

2. For a rare instance of a brick structure of the Chalcolithic period that has survived in northeastern Sinai near Raphia, see Oren & Gilead 1981 : 28-29, fig. 4. The monumental fort that once occupied the New Kingdom site of Bir el-Abd has totally disintegrated down to the lowest course of its brick walls.

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TABLE 1. — Random list of sites with more than 20 identifiable specimens of pottery types.

Site	Predyn.	EB	Site	Predyn.	EB	Site	Predyn.	EB
A-26	60	10	B-10	29	22	C-50	460	22
A-33	57	*	B-18	120	35	C-51	400	20
A-40	44	30	B-50	950	340	C-54	420	25
A-50	200	10	B-55	580	370	C-56	300	35
A-51	167	18	B-59	25	2	C-65	60	2
A-63	150	12	B-60	89	5	C-72	37	3
A-119	100	65	B-61	770	60	C-102	80	2
A-130	8	7				C-103	125	20
A-137	35	3				C-106	18	8
A-157	82	22				C-107	25	50
A-210	2	73						
A-223	50	6						

TABLE 2. — Classification of sites with 3 or more identifiable specimens of Predynastic/EBA pottery types.

Predyn. only	Predyn. predom.	Predyn.-EBA	EBA only	EBA predom.	Total
22 sites	118 sites	12 sites	7 sites	35 sites	194

as a viable model for the royal Egyptian architecture that probably characterized northern Sinai in the Early Bronze I-II (Gophna 1985).

The Early Bronze Age sites in northern Sinai, particularly the larger ones, were represented by the remains of storage, cooking and baking installations, fragmentary *tabuns*, hearths, ash patches and pits, many stone tools and implements and a profusion of both Egyptian and Canaanite pottery. The finds were usually collected directly from the exposed surfaces of consolidated sand or badly deflated sites. However, it was often possible to reconstruct complete vessels from numerous fragments scattered over a relatively small area. Trial excavations at some of the sites indicated that the sand under the remains was sterile. Taken together, the above evidence strongly indicates that these were one-period settlement sites that may even be technically considered as "floor deposits".

The ceramic collection from northern Sinai is rich in quantity and diversity, totalling no less than 10,000 identifiable specimens of Egyptian and Canaanite wares. Nearly 80% of the entire assemblage were classified as Egyptian late Predynastic and early Archaic types, and the remainder as Canaanite Early Bronze I and II wares (see Tables 1-2). Typological evaluation and statistical analysis of such a large assemblage can clearly yield significant results. The Egyptian pottery included most of the types known in late Predynastic and Archaic (Naqada II-III and Dynasty 1) settlement and funerary deposits in Egypt proper, e.g. Gizeh, Saqqara, Tarkhan and Abydos³. The collection contained a substantial number of transport containers as well as coarse kitchen wares such as bread moulds, baking trays and granary-shaped vessels (Figs. 4-7). Several of the jars bore scratched representations of animals such as gazelle and hippopotamus. On two of the wavy-handled transport jars serekh graffiti were incised before firing (Fig. 6: 1). It is noteworthy that the serekhs from northern Sinai, like those from el-Beda, are surmounted by two falcons and the name compartment is anonymous. This class was recently assigned

3. For parallels see Oren 1973 : 202 n.10-14.

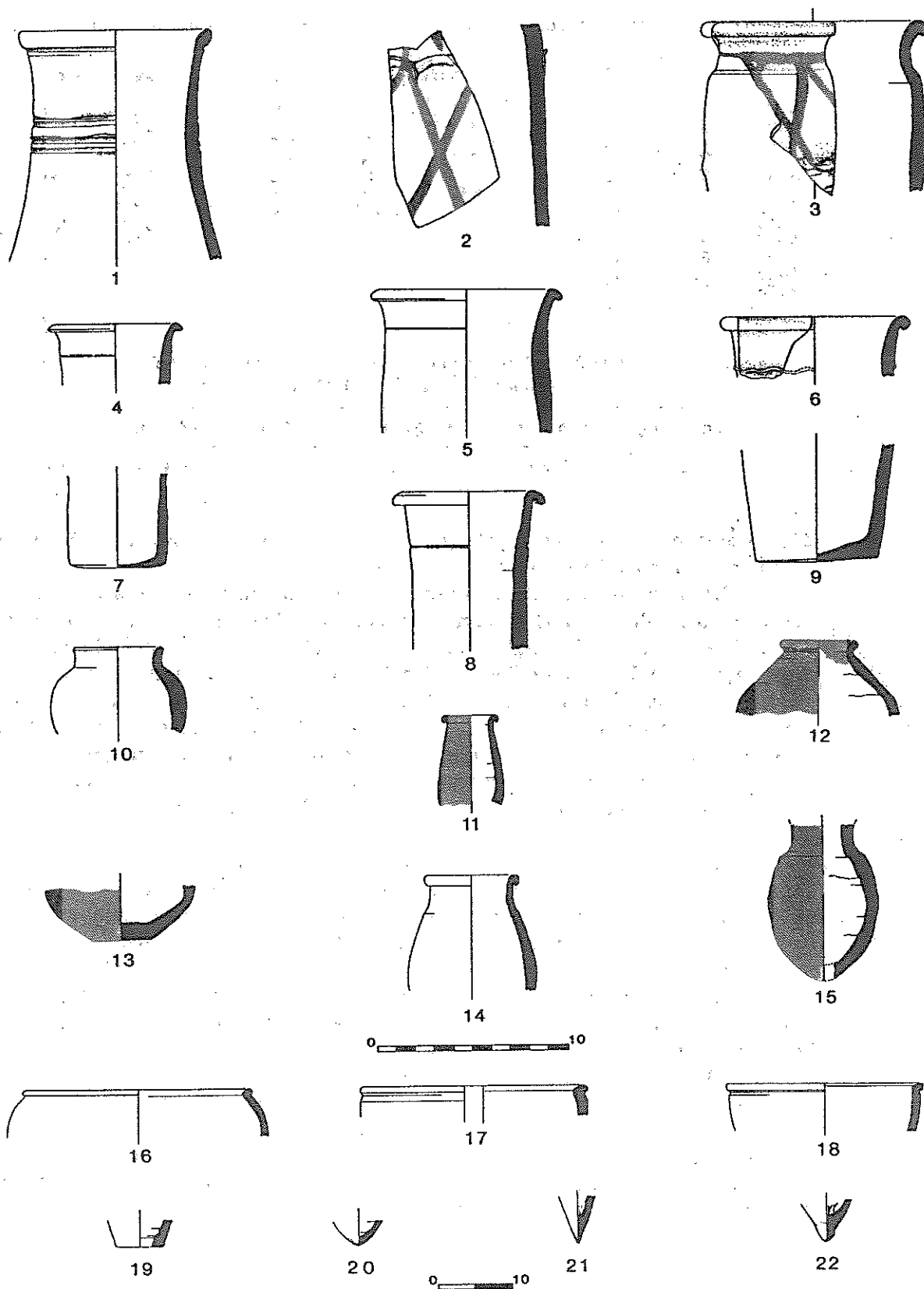


FIG. 4. — Egyptian Late Predynastic and Early Archaic pottery.

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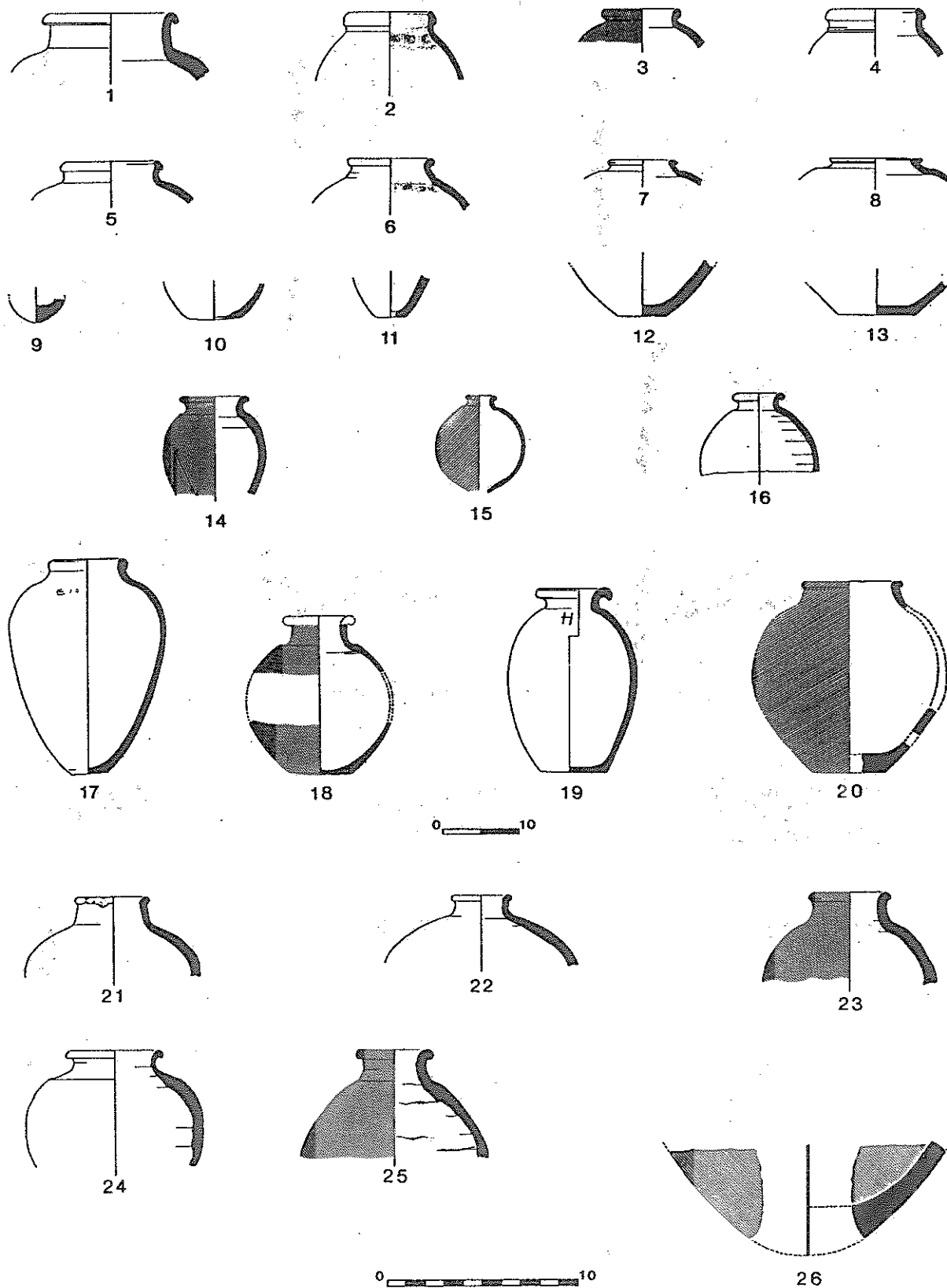


FIG. 5. — Egyptian Late Predynastic and Early Archaic pottery (continued).

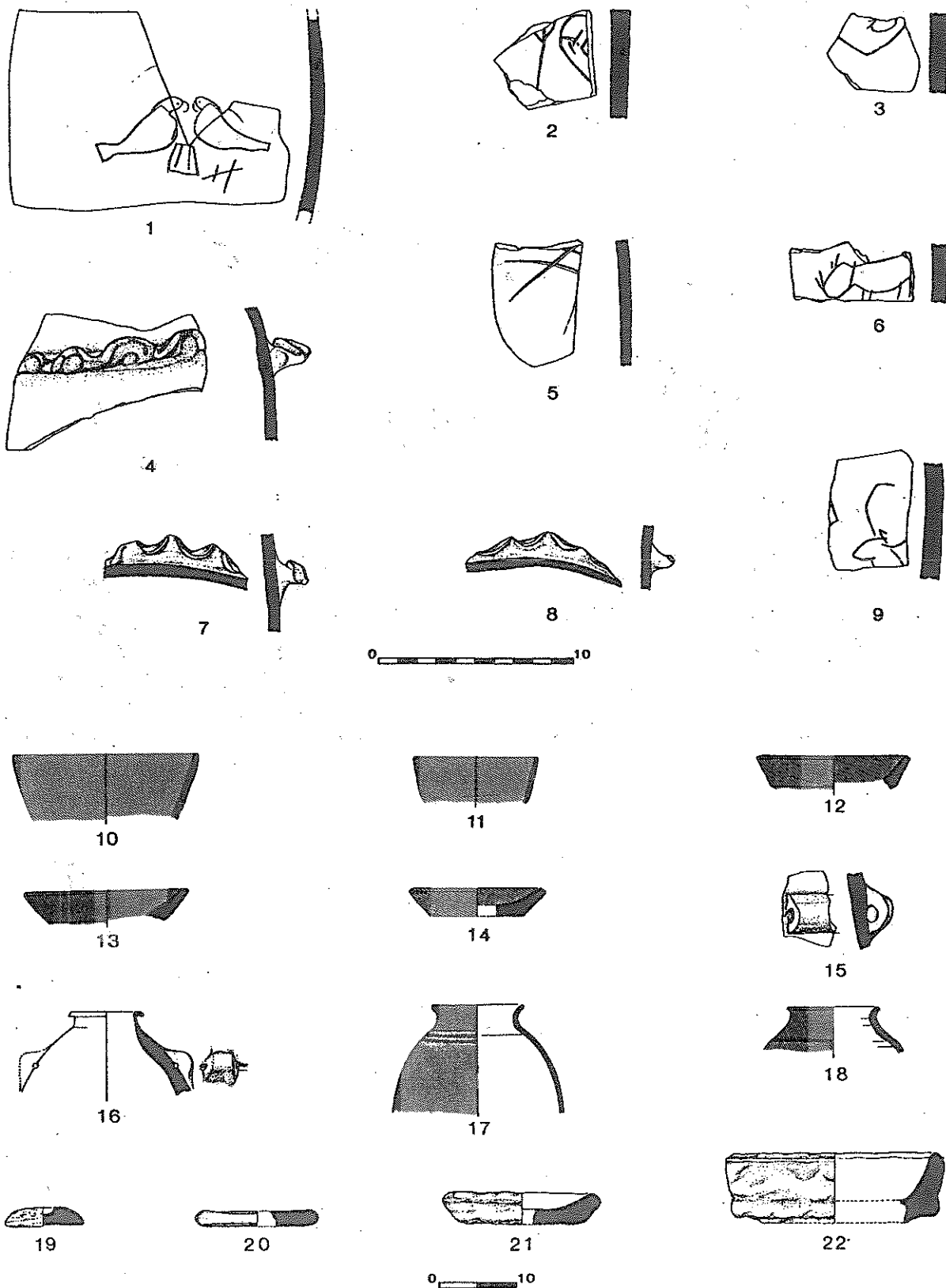


FIG. 6. — Egyptian Late Predynastic and Early Archaic pottery (*continued*).

EARLY BRONZE AGE SETTLEMENT IN NORTH SINAI

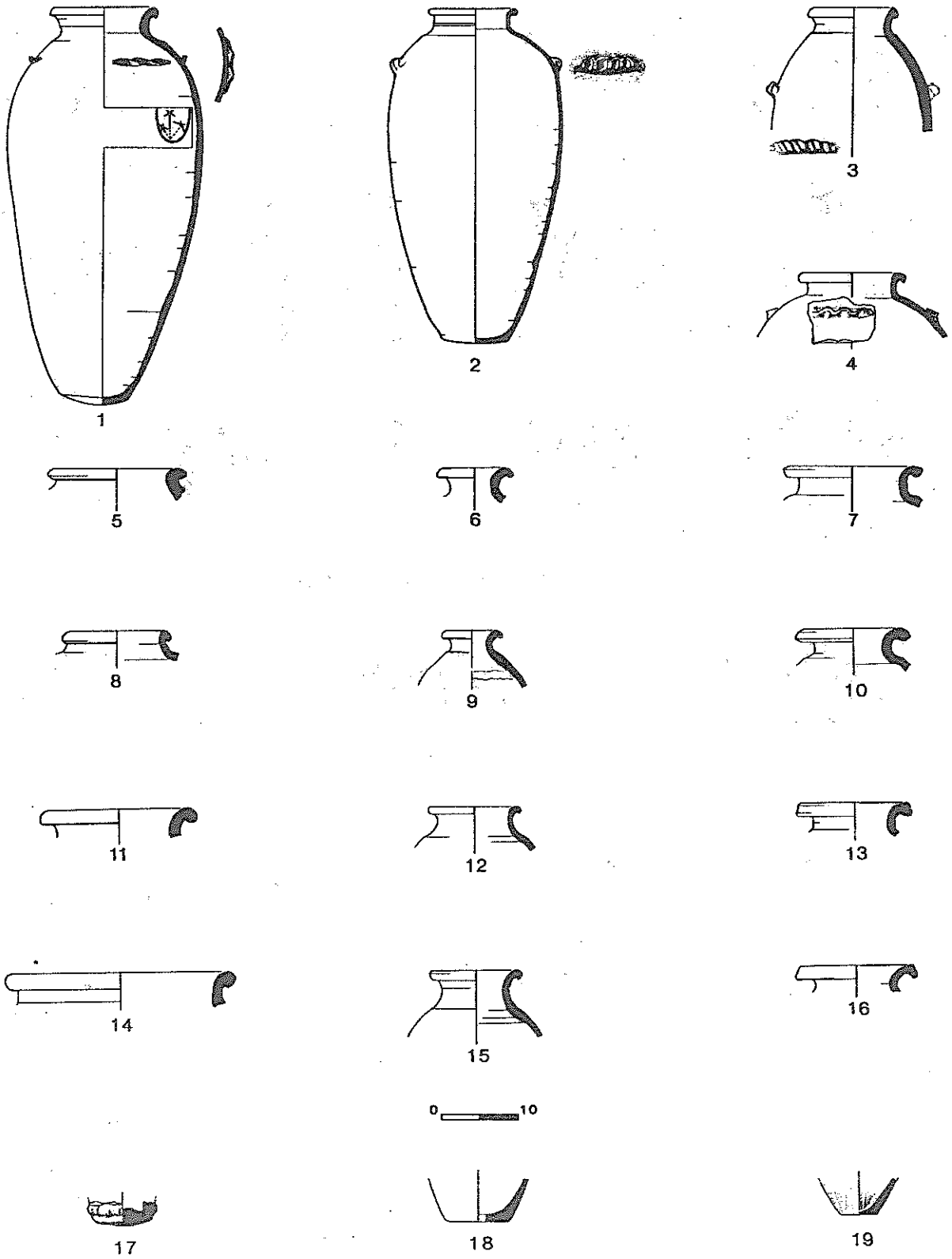


FIG. 7. — Egyptian Late Predynastic and Early Archaic pottery (*continued*).

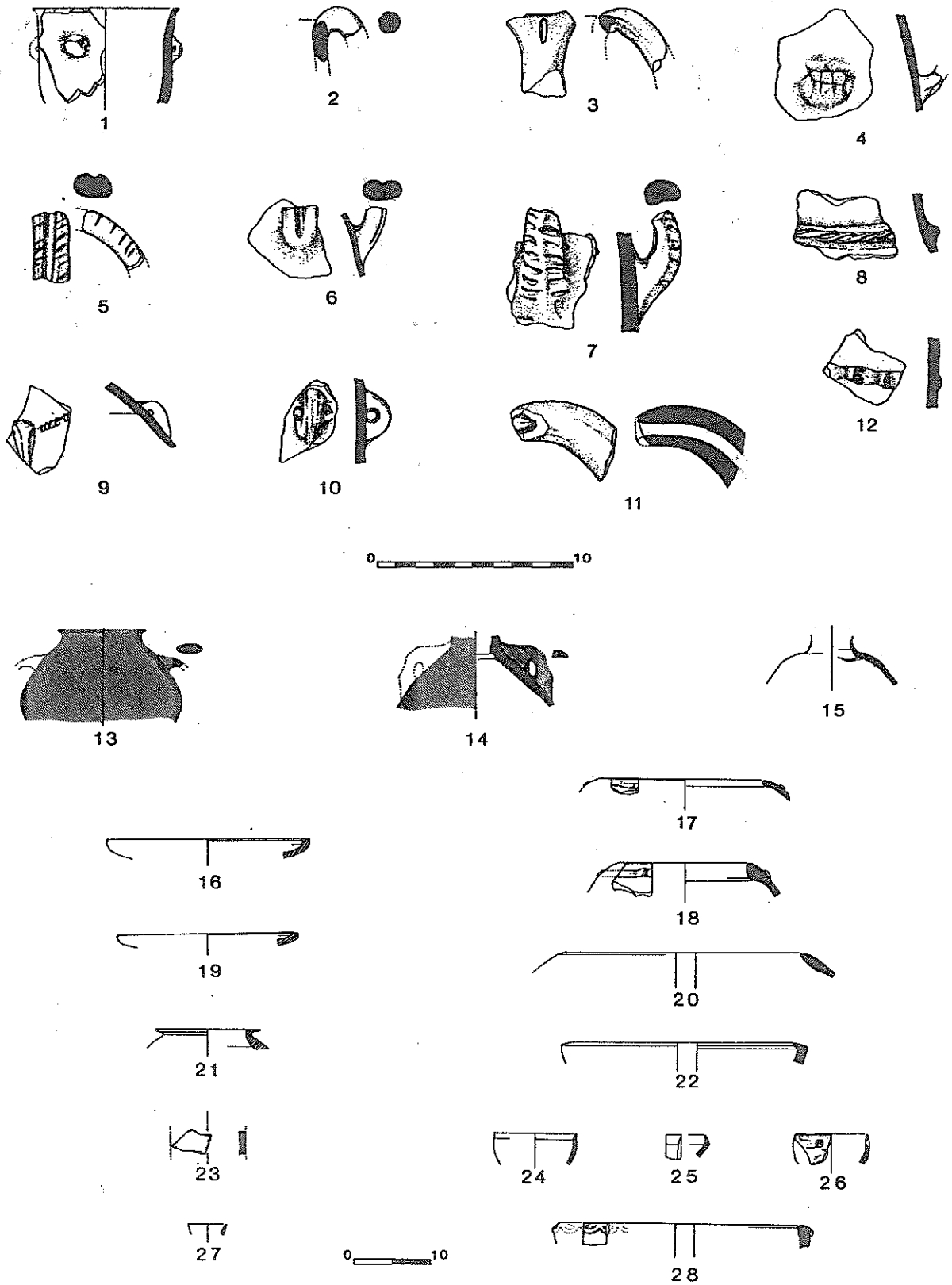


FIG. 8. — Canaanite Early Bronze Age pottery. N° 16, 19, 21, 23 and 27 are Egyptian stone vessels.

EARLY BRONZE AGE SETTLEMENT IN NORTH SINAI

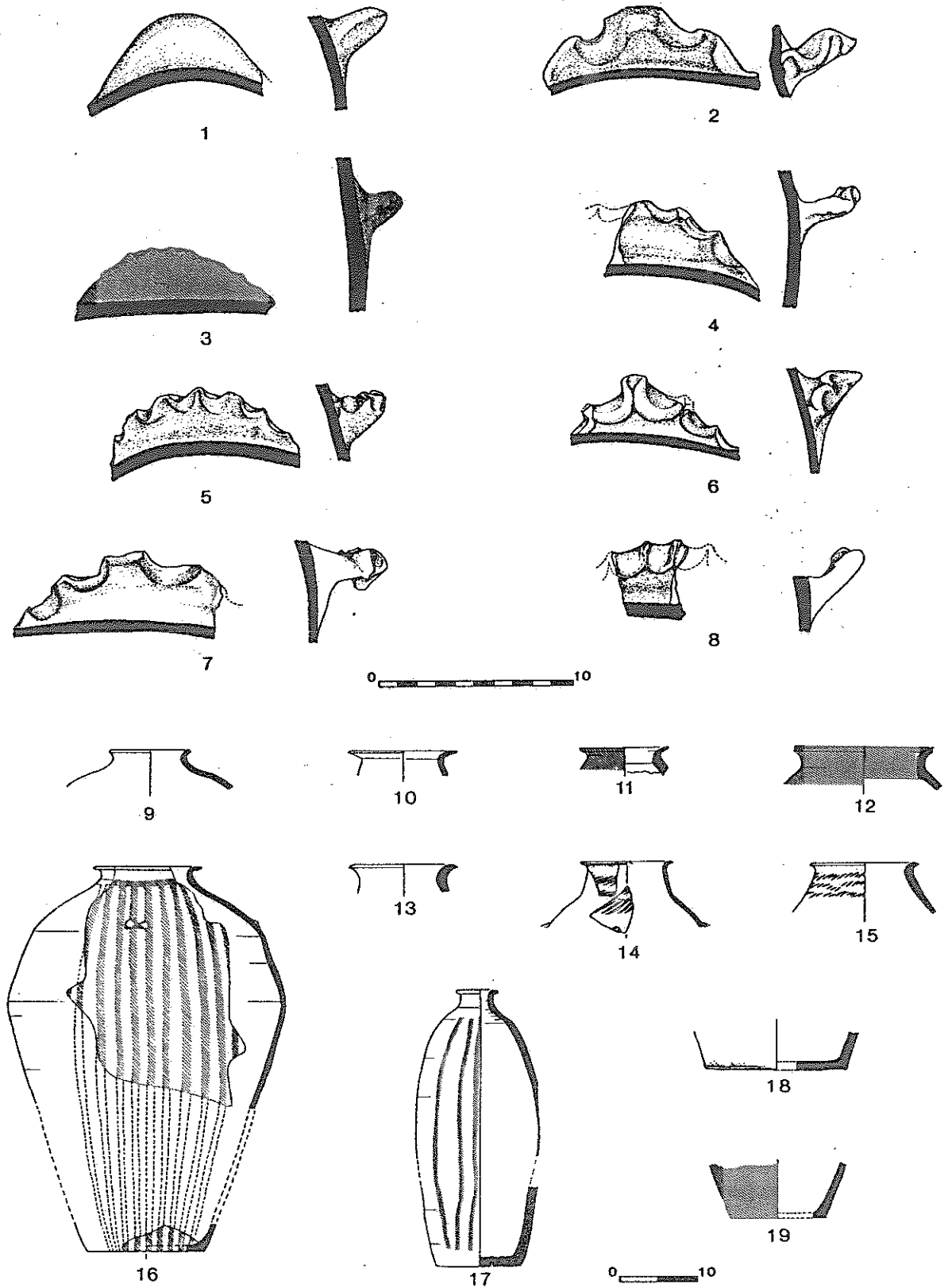


FIG. 9. — Canaanite Early Bronze Age pottery (continued).

by Kaiser to Dyn. 0⁴. Examination of the Egyptian ceramics, including petrographic analysis, indicated categorically that almost the entire collection was imported from the Nile Valley and the Delta plain⁵. This observation is immensely important for the study of Egyptian penetration into Canaan (see below).

The Canaanite pottery belongs to the characteristic Early Bronze I and II repertoire of southern Canaan (Fara H, Taur Ikhbeineh, Tel Erani, Arad, En Besor, Tel Ma'ahaz, Tel Halif, etc.). It is, however, noticeably less varied than its Egyptian counterpart. Most of the vessels are wavy-handled storage-jars, apparently used for transporting trade commodities, while household vessels such as bowls and cooking pots are relatively rare (Figs. 8-9). The assemblage is characterized by plain and wavy ledge-handled jars that were often painted with red bands over a lime-washed surface, jars with pillar- or lug-handles and arched spouts. The northern Sinai sites also yielded more luxurious items such as bone and metal implements as well as fragmentary stone vessels made of alabaster, marble and diorite (Fig. 8 : 16,19,21,23,27). The sizeable assemblage of flint tools included knife blades reminiscent of Egyptian types, "Canaanite" blades, fan scrapers and transverse arrowheads⁶. Mention should be made of the important discovery of several kilograms of copper ore in the area of el-Arish and Bir Mazar⁷.

B. DISCUSSION

Typological evaluation and comparative analysis of the large collection of finds from northern Sinai clearly indicate that the cultural horizon of the sites in question is Early Bronze I-II or the late Predynastic and early Archaic periods (Naqada II-III and Dynasty 1). However, the bulk of the pottery assemblage suggests, a more limited period of occupation in the Early Bronze I - beginning of Early Bronze II, coinciding with Egyptian Dyn. 0 (Naqada III) - I. At the present stage of Egyptian pottery research, we cannot determine how late within Dynasty 1 did the settlements in northern Sinai survive. As far as one can judge from the published corpus of pottery from Dynasty 1-2 contexts in Egypt, our deposits do not include any Dynasty 2 imports, implying a late (?) Dynasty 1 date for the disruption of trade activity in northern Sinai. The evidence from contemporary Early Bronze Age contexts certainly supports an early date, before the end of Dynasty 1, for the abandonment of the settlements in northern Sinai.

Clearly, both the typology and the relative quantity of ceramic forms are crucial for defining the level of contacts between Egypt and Canaan. We noted above that the proportion of Egyptian to Canaanite objects in northern Sinai is 4 : 1. In two official Egyptian outposts in southern Canaan, En Besor and Tel Ma'ahaz, Egyptian imports are likewise relatively numerous (Gophna 1987). Such a massive distribution of imported goods along the North Sinai corridor is an unequivocal testimony that this was an

4. For discussion and parallels see Kaiser & Dreyer 1982. The serekh from northern Sinai is illustrated in fig. 14 : 5.

5. Naomi Porat, who conducted the petrographic study, confirmed our observation. Miss Porat has kindly informed me (15-6-87) that the Egyptian pottery from northern Sinai that was subjected to analysis is identical with ceramics from Tura and Minshat Abu Omar in the eastern Delta.

6. Transverse arrowheads were recorded at the *nawamis* sites in southern and eastern Sinai dated to the late Chalcolithic to Early Bronze II periods, as well as in late Predynastic and Archaic contexts in Egypt and Nubia ; see Bar-Yosef 1977 : fig. 4 : 5-9 ; 1986 : fig. 11 : 1-5.

7. One sample from site A-50 near el-Arish was examined by Prof. B. Rothenberg. In a letter of 8-2-85 Prof. Rothenberg suggested southern Sinai as the most likely source for the copper. The sample is "essentially a sandstone with abundant chrysocolla which would make a viable copper ore".

Egyptian dominated area and should be regarded as an eastern extension of Archaic Egypt. This conclusion is further supported by the fact that almost the entire assemblage of identifiable Egyptian pottery from northern Sinai, like the comparable vessels from En Besor and Tel Ma'ahaz, proved upon examination to be imported from the Nile Valley (see above p. 400). On the other hand, Egyptianizing pottery — i.e., vessels imitating Egyptian types manufactured locally, perhaps in workshops supervised by Egyptian potters — predominated in the pottery inventory of major Early Bronze Age centers such as Tel Erani. Moreover, the appearance of Egyptianizing pottery in early EB I context (Taur Ikhbeineh, Fara H, Tel Erani) demonstrates that the permanent Egyptian presence in Canaan goes back to the Naqada III or even late Naqada II phases, becoming most intensive during late Early Bronze I or Dyn. 0-1 and ceasing altogether during the late Dynasty 1⁸.

The analysis of Early Bronze Age site distribution in North Sinai indicates clearly that they fall into distinctive clusters that seem to form the characteristic settlement pattern of this region. The larger sites should be regarded as permanent settlements and installations — villages, administrative headquarters, way stations and caravanserai. Judging by their size and preserved remains, it is likely that many were occupied by solid (mudbrick) structures such as storehouses, granaries, kitchen facilities and other household installations. The numerous smaller sites, where only a scatter of pottery and stone implements was recorded, served as campsites for passing caravans and seasonal encampments for the local population whose security and supplies were provided by the Egyptian administration in the nearby centers. In return the local tribesmen were apparently required to render certain services necessary for the upkeep of the administrative network in northern Sinai and the smooth passage of trade caravans and royal Egyptian expeditions.

In our preliminary report in 1973 we pointed out the resemblance of the settlement pattern in northern Sinai during the Early Bronze Age to that of modern Bedouin settlement in the same region (Oren 1973 : 200 n.7). This analogy was advanced at the time as an argument supporting the hypothesis of proper settlements and installations alongside temporary encampments, rather than that of sporadic clusters of ephemeral campsites or a mere chain of way stations along the desert road of northern Sinai. At this juncture it should be emphasized that the Bedouin analogy cannot sustain the assumption that the local population of northern Sinai was actually responsible for the commercial activity and exchange of goods along the caravan route. The Bedouin tribes of Sinai apparently never established their own trade network between Egypt and Palestine. An examination of deserted Bedouin encampments in northern Sinai fully supports this conclusion. The assortment of household utensils (before the introduction of tin and plastic containers) revealed that, except for a relatively small collection of "Gaza Ware", these sites were hardly represented at all by diagnostic imported Egyptian or Palestinian pottery vessels. Most of the assemblage consisted of handmade, locally manufactured vessels that evidently characterized a nomadic population and not people who were closely involved in international commerce. Interestingly, this observation accords with the evidence from earlier periods in the history of North Sinai. The results of our survey demonstrated that at times of unstable political organization at either the Canaanite or the Egyptian terminus of the northern Sinai land bridge (e.g. the Middle Bronze I or the First Intermediate period), or at periods when the Egypto-Canaanite trade was interrupted altogether and the desert route was bypassed (e.g. the Middle Bronze Age II or Middle Kingdom and Second Intermediate period), the household repertoire of the poor campsites in northern Sinai is surprisingly analogous to that of the seasonal Bedouin

8. For a comprehensive treatment of the subject and bibliography, see Ben-Tor 1982.

encampments. In short, the Bedouin analogy is of relevance only as far as the actual phenomenon of settlement is concerned. It has little relevance for the interpretation of the commercial and political relations between Egypt and Canaan in the late Predynastic and Archaic period⁹. In certain chapters in the history of northern Sinai, e.g. the New Kingdom, Assyrian and Persian periods, the local tribes were indeed involved in the administration of the trade route. However, judging from the written and archaeological records, the tribesmen of northern Sinai had been incorporated into the administrative and military organization of the political power that ruled at the time over the entire region.

The rich and diverse archaeological record from the Early Bronze Age sites in northern Sinai and southern Canaan, which ranges from Egyptian architecture to imported goods and luxury items, reflects in our view a developed system of commercial organization that was administered by the Egyptian crown. As a working hypothesis we suggest that an analogy for the Early Bronze Age settlement pattern be drawn from the New Kingdom organization in northern Sinai, in which Egypt's vital military and economic interests were secured and maintained by an elaborate network of forts and supply stations established by the crown along the Pharaonic "Ways of Horus". This well-travelled artery of communication between Egypt and her Asian provinces is represented in the North Sinai Survey by more than two hundred settlement sites — forts, way stations and many small campsites that were likewise clustered in groups of five to twenty over an area of 2-3 square kilometers and distributed evenly between the Suez Canal and Raphia (Oren 1987). The New Kingdom clusters were characterized by a central fort or station surrounded by small campsites and seasonal encampments. The latter, like many dozens of the small Early Bronze Age sites, had no architectural remains but were represented by a few stone tools and thin scatters of pottery. Furthermore, as in the case of the early sites, Egyptian and Egyptianizing pottery predominated, reaching a ratio of nearly 10 : 1. Needless to say, we are not suggesting here that the complex organization of the Pharaonic "Ways of Horus" during the imperial period may serve as a precise model for Egypt's involvement in this area some 1500 years earlier. Yet, the impressive body of evidence at our disposal concerning Egypt's official presence in northern Sinai and southern Canaan implies a similar, though admittedly less elaborate, structure of "colonial" administration. Moreover, in the light of Egyptian extreme conservatism, we may even venture to argue in favor of continuity of Egyptian tradition rather than a hypothetical projection from the New Kingdom back to the very beginning of the dynastic age.

It should perhaps be reiterated here that the extremely inhospitable conditions peculiar to northern Sinai, i.e., shifting sand dunes and wide marshy areas, scarcity of fresh water and food supplies, hostile nomadic population, etc., make it imperative to resort to historical analogies, early and late alike, for the interpretation of the archaeological record. Accordingly, trade activity on any appreciable scale in northern Sinai, could never have been maintained unless the entire corridor as well as its Canaanite and Egyptian termini were under the domination of one political power. The history of the desert route in northern Sinai shows that the passage of caravans and flow of goods was never a matter of private enterprise or the result of local initiative. It required a well organized and administered network of way stations providing supply and watering facilities. Most important, in such a hostile and harsh environment the safe passage of trade caravans could have been assured only under two conditions : the military presence of

9. In this respect the oft quoted scene in the tomb of Khnum-hotep III at Beni Hassan, where a group of Asiatics travel on donkeys across northern Sinai (?), is unlikely to represent a contemporary merchant caravan or the system of donkey caravans along the Sinai trade route. It probably illustrates a party of nomads, perhaps migrants, moving to Egypt in time of famine (see Porter & Moss 1968 : 145-146 for bibliography).

the political authority and close cooperation by the local population, perhaps even to the extent of their integration in the local administration. Obviously, such conditions could only exist in the framework of an established military and trade organization that was most likely administered in a pattern best known to us from the New Kingdom period.

The well established network of supply stations, trading posts and other bases for Egypt's commercial activity in southern Canaan (e.g. Arad, En Besor, Tel Ma'ahaz, Tel Halif, Tel Erani, etc.) demonstrates clearly the level of Egyptian governmental involvement in this region (Gophna 1987). Surely, the small Egyptian "residency" (c. 85 sq. m.) at En Besor, which lacked any means of defense and could hardly have accommodated more than a dozen men (Gophna 1985), was not the only link, nor even a major one, in the administrative chain established by Egypt in the territory to the east of the Nile Delta. The staging post at En Besor, together with the other sites discovered thus far in southern Canaan, provide us with an instructive model for reconstructing the complex structure of Egyptian organization between the Nile Delta and southern Canaan. It is almost inconceivable that the massive Egyptian presence in southern Canaan and its large scale commercial activity could have been based merely on ephemeral encampments or "overnight" campsites (Gophna 1987: 18) scattered along the 250 km. (!) stretch of inhospitable territory that separated Egypt from Canaan. Obviously, the establishment of a permanent Egyptian base of operations right on the doorstep of Canaanite territory and evidently even within major Canaanite centers (e.g. Arad, Tel Erani) became possible only once the vital corridor of northern Sinai was fully controlled and administered by the Egyptian crown. The safe passage of trade caravans, royal trading missions, official delegations and military expeditions in northern Sinai was facilitated by a properly spaced network of supply and service stations, trading posts, caravanserai and perhaps also fortified installations of some sort. The total of some two hundred and fifty Early Bronze Age sites that make up the settlement map of northern Sinai, coupled with the large collection of imported Egyptian pottery and luxury goods, indeed bear witness to the level of royal Egyptian organization that functioned at the time along the major route to Canaan. Of course, we cannot rule out the possibility that Canaanite merchants played an active role in the commercial organization along the Sinai route and that this was actually the reason for the distribution of Egyptian and Canaanite goods in what seems to be a significant pattern. Indeed, it was observed that at sites in the areas that border the Egyptian Delta, like those close to southern Canaan, the proportions varied with either the Egyptian or Canaanite material predominating (see Table 2). Perhaps sites with a high proportion of Canaanite pottery mark the position of "Canaanite" way stations ¹⁰.

An illuminating parallel to Egypto-Canaanite relations in the Early Bronze Age may be seen in the history of Egypt's penetration into Nubia. Egyptian trade is attested in lower Nubia as early as the Naqada II period. By the beginning of Dynasty 1 the Egyptian presence was firmly established, reaching as far south as the Second Cataract. The large-scale commercial activity is demonstrated, amongst other evidence, by an enormous volume of Egyptian goods, including luxury items, in Nubian A Group contexts (Arkell 1950 ; Trigger 1965).

The simultaneous penetration of Egyptian cultural traits in Nubia, Sinai and Canaan may be viewed as a manifestation of Egypt's expansionist policy during the late Predynastic period. The highly organized Egyptian state apparently had the means as well as the incentive to exercise full control over large areas that lay well beyond her own frontiers and exploit their natural resources. It should be borne in mind that the political

10. See Amiran 1969 for ivory inlays from Abydos with representations of Canaanite merchants (?) carrying characteristic Early Bronze I jars.

organization and socio-economic structure of Early Bronze I settlements in North Sinai and Canaan, like those of the contemporary Nubian A Group, were much less developed than the Protodynastic Upper Egyptian state and thus offered no serious obstacle to Egyptian occupation¹¹. This may well have been Egypt's major consideration when directing her attention to these territories in the first place.

That Egypt's expansionist activity was a concerted effort by the state may also be deduced from the similar process of settlement and, in particular, the distribution of imported trade goods in northern Sinai, southern Canaan and lower Nubia. On the basis of ceramic typology, seal impressions and royal serekhs from these regions, it is evident that the process of expansion and subsequent settlement must have been rapid and relatively short-lived. It coincided with the zenith of political organization and cultural development that characterized Egypt under Dynasties 0-1¹². Indeed, a number of Egyptian kings — Narmer, Djer and Den — were attested in both regions (Emery 1963 : 116-120 ; Schulman 1976 : 24-25 ; 1980 : 32-33 ; Kaiser 1982).

At some time in the course of Dynasty 1 the flow of Egyptian trade goods in Nubia substantially diminished, with a consequent end to settled life. The cessation of Egyptian commercial activity in Canaan at about the same time is likewise documented in the archaeological record, including evidence for the total abandonment of the Early Bronze Age sites along the northern Sinai land bridge. Accordingly, the end of the Egyptian presence in Canaan, like its Nubian counterpart, was due to internal Egyptian politics rather than the growing menace of the newly emerging urban centers in Canaan.

C. SUMMARY AND CONCLUSIONS

The results of our survey have not only provided indispensable evidence for reconstructing the cultural and commercial relations between Egypt and Canaan in the late Predynastic period, but shed new light on the nature of these contacts and their repercussions on the political and cultural environment. The complex of sites in northern Sinai represents, in our view, the eastward extension of the Egyptian sphere of interest and civilization, which served as a springboard for commercial (and military ?) ventures in southern Canaan at the very beginning of the Dynastic period. The influx of Egyptian goods of the Dyn. 0 (Naqada III) - I horizon in northern Sinai and southern Canaan indicates a rapid process of expansion rather than a gradual intensification of commercial activity. The new evidence from northern Sinai, coupled with the data from southern Canaan and Egypt proper, support our preliminary conclusion that during the late Predynastic and early Archaic periods the entire territory of northern Sinai and as far north as Nahal Shiqma in southern Canaan was dominated and administered by Egypt. The archaeological record from Nubia, Sinai and Canaan testifies that Egypt's conduct on her eastern frontier was in keeping with an overall policy of "colonial" occupation during the late Predynastic period.

11. It is possible that army units actually took part in regulating Egypt's trade and protecting her interests. Although we lack direct evidence of the role played by Egypt's military organization during the period under review, the contemporary "records", though obscure and controversial, from the reigns of Djer, Den and other 1st Dyn. kings may well imply military intervention, albeit limited, in the region to the east of Egypt, most likely northern Sinai and southern Canaan (Helck 1962 : 13-16).

12. For a recent summary see Needler 1984 : 25-31.

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