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## An archaeological survey of the Selima Sandsheet, Sudan

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As part of the Western Desert so named by Haynes (1982: 631) the Selima Sandsheet with an expanse of 60,000 square km covers a large area and was, until recently, believed to be free or, in relation to other regions nearly free of prehistoric remains. Now, that the exploration of the Western Desert has turned from geographical to geological and archaeological studies, this view must be revised. The archaeological work of the Combined Prehistoric Expedition around Bir Kiseiba and Bir Sahara/Bir Tarfawi (Wendorf, Schild and Close [eds.] 1984), the expeditions carried out by Haynes (1983; 1985) and the discovery of number of buried features in Southern Egypt and Northern Sudan by the Space Shuttle Columbia (McCauley *et al.* 1986) gave reason to carry out the survey in the vicinity of Burg et Tuyur (Fig. 1). In its first years, the mainly archaeological B.O.S. project concentrated field work in the regions of the Qattara Depression, the Great Sandsea and Gilf Kebir in Egypt and the Wadis Shaw and Sahal near Laqiya Arbain and the Wadi Howar in Northern Sudan (Kuper 1981; 1986. For the work in Egypt and Wadi Howar see reports of E. Czesla, B. Keding, S. Kröpelin, R. Kuper, K. Neumann and W. van Neer, this volume). The Selima Sandsheet was then only crossed to save time for the work in the Northern Sudan but by comparing material from Gilf Kebir and Wadi Shaw/Wadi Sahal sites it became obvious that there were very strong similarities in artefacts, especially in ceramic decoration and grinding-stones; for example comb-impressed decoration below rims and grinding stones of the Gilf-Type (Schuck 1988; 1989).

In 1983 we discovered nearly 40 sites while crossing the Selima Sandsheet on our way to Wadi Shaw and this gave reason for intensive survey in 1985 to fill the gap in the North-South-Transsect of the B.O.S. Project. The area is generally a featureless flat sandsheet with some variation in the south near the rock of Burg et Tuyur. There it is undulation because of long sand-ridges running northeast-southwest with, between the ridges, elongated depressions. Sometimes small and low outcrops of quartzite and brown chalcedon occur in such depressions

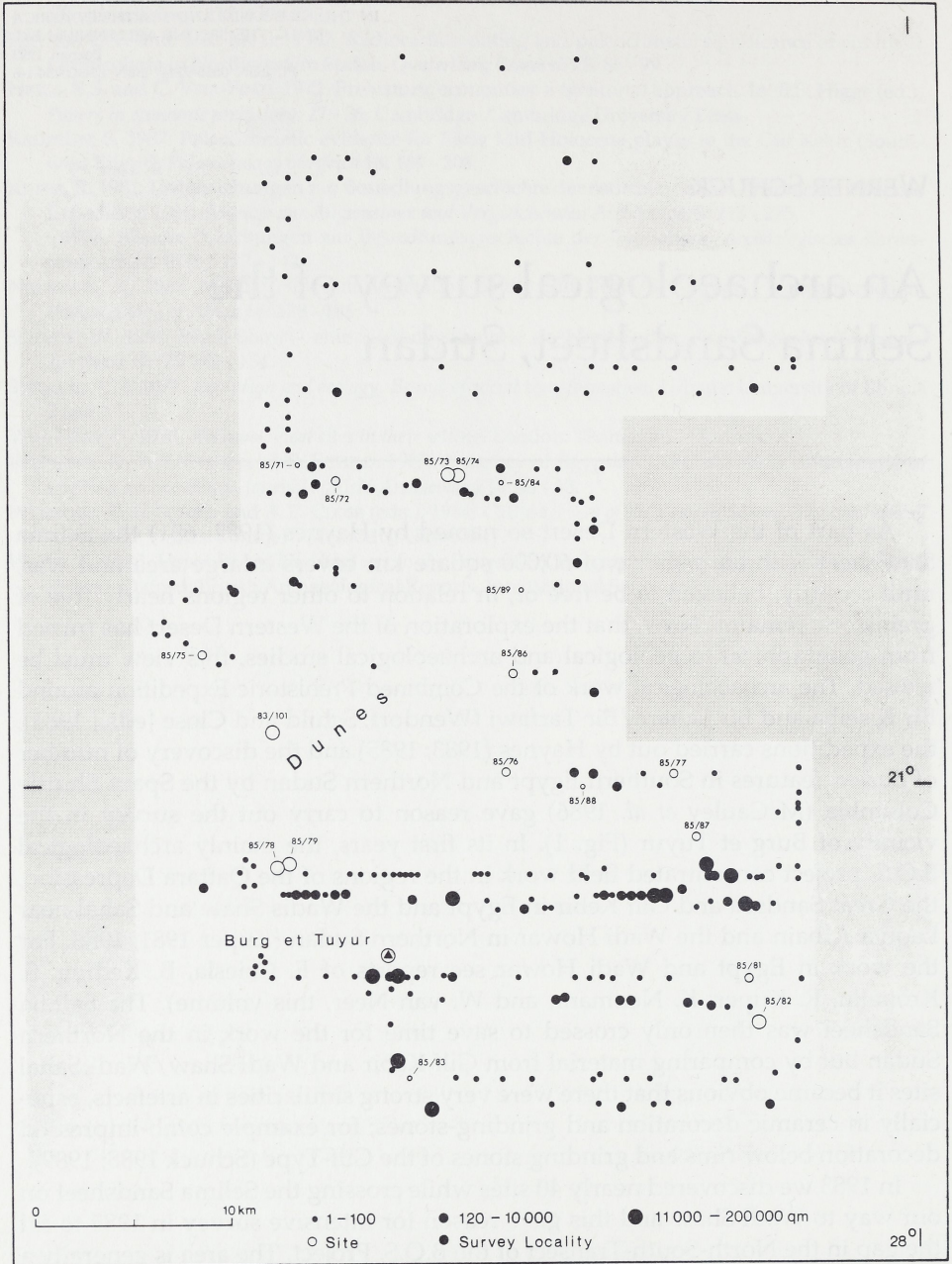


Fig. 1. Survey Area in the Selima Sandsheet with sites and survey localities.

and were much used as raw material sources as indicated by thousands of artefacts. East and west of Burg et Tuyur Barchan dunes running from Northeast to the Southwest rise to a height of more than 10 m.

The northernmost corner of the survey grid was 45 km N of Burg et Tuyur (Fig. 1). This point is north of the subsurface Wadi Moktafia (McCauley *et al.* 1986: 627 - 628) and the survey covered most of the width of this wadi and the southern part of the space shuttle sweep across southern Egypt and Northern Sudan. The base line of the Survey was 10 km south of Burg et Tuyur. From the northern point on the survey was conducted in eleven parallel W-E or E-W runs, spaced at 5 km intervals. An area of 1200 sq. km was covered and a linear distance of 260 km by two cars. 285 archaeological sites were located within this area, and each was examined by two or four archaeologists. Because of the surprising number of sites and limited time (only 10 days for survey and test excavations) this description of sites and registration of artefact-types is only a preliminary one.

Sites of two main types are associated with the sand-ridges and the depressions: Palaeolithic and Neolithic. The palaeolithic artefacts – mainly handaxes – occur in the bottoms of some depressions; they are extremely aeolized, indicating a long period of exposure on the surface and will not be further considered here. In most cases the Neolithic sites occur in the same positions, on top and along the northern slopes of the sand-ridges, also in the bottoms of the depressions. A few sites occur on very low dune ridges as long artefact scatters with concentrations at intervals only two or three metres above the surrounding surface. Most of the sites assigned to the Neolithic are very small, some included only a few artefacts or 50 to 100 pieces in an area of 10 sq. metres, and represent the working of one or two cores. The artefact types are limited and undiagnostic. Probably they represent short-time camps – overnight or possibly longer stops by small groups – as was suspected for such small sites discovered during the survey near Bir SafSaf (Wendorf and Close 1984; Wendorf *et al.* 1987).

On the other hand some large sites cover an area ranging from 10,000 to more than 100,000 sq. metres with thousands of artefacts. Within the larger sites dense artefact scatters represent the working of cores of different raw materials (mostly quartzite but also chalcedon). Between these working areas general and regular artefact scatters occurred. There were also variations in the pattern of artefact types, normally retouched tools were limited to flakes, but some sites had blades and bladelets. Grinding-stones occurred more frequently at these larger sites than at the smaller ones. Ostrich eggshells were also found here frequently. One single find of a complete ostrich egg with a hole on one side could be seen as a water bottle and some other fragments may have been also remains of broken water bottles.

Faunal remains were very rare except in one case where a pit in the vicinity of a large site yielded many bones, including ostrich, wild cat, giraffe, dorcas and dama gazelle, oryx and sheep/goat (determinations by Wim van Neer, Tervuren).

Ceramics were very rare, only a few sherds being found in a poor stage of preservation. The absence of ceramics is ascribed to erosion because sherds were

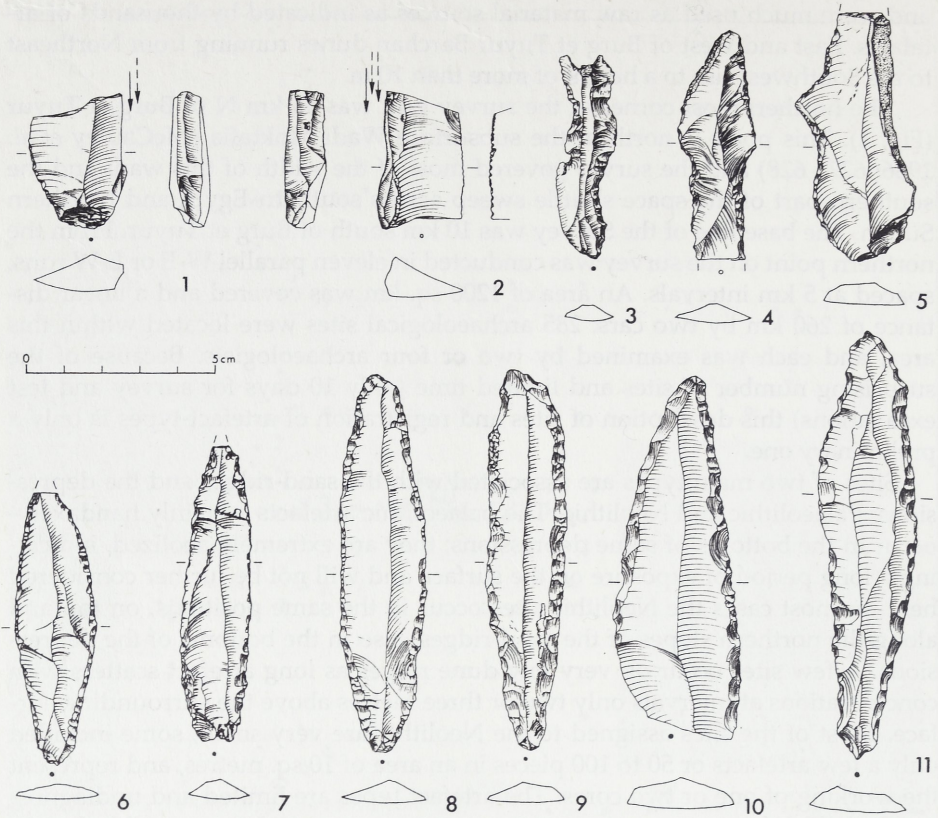


Fig. 2. Burins and blades from site 85/73.

worn on one or on both sides to such an extent that thickness could not be determined and decoration was obliterated.

Artefacts were collected only from some of the larger sites, and included a full range of blades and bladelet tools, microburins and geometric microliths. Although a sample from site 85/73 was very limited in numbers with backed bladelets, burins and large bilateral backed blades (Fig. 2), it was comparable to site E-79-5, an example of Early Neolithic El Nabta Type (Connor 1984: 183) dated around 8,000 B.P.

At site 85/74, some hundred metres to the East, a small excavation within a dense scatter of artefacts produced a few large bilateral retouched blades and many microliths (Fig. 3); after retouched bladelets, elongated scalene triangles were the most frequent tool, while shouldered bladelets were common, and segments, borers, truncations and triangular points with basal retouch rare. Similar artefact assemblages have been found on site 85/78 and site 85/79 separated by a 400 m wide depression floored by a reddish soil similar to playa deposits, 6 km west of Burg et Tuyur (Idris 1988: Fig. 4 and 7). Probably water collected in

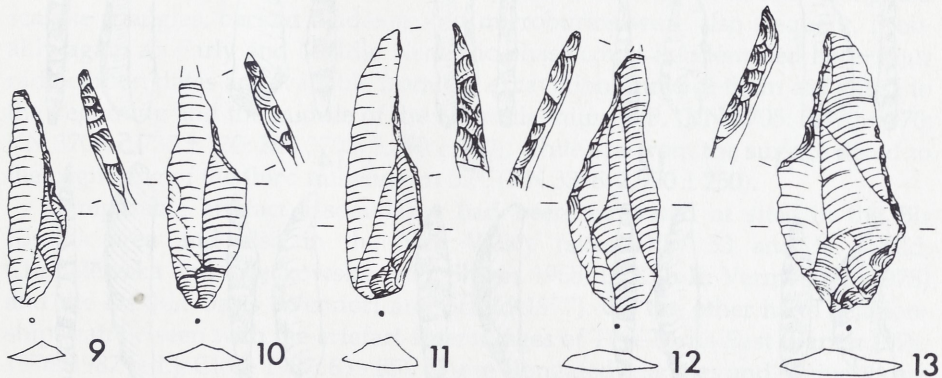
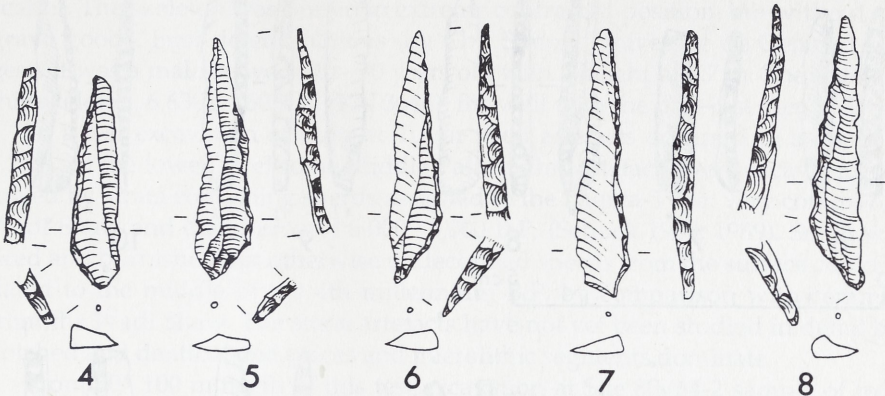
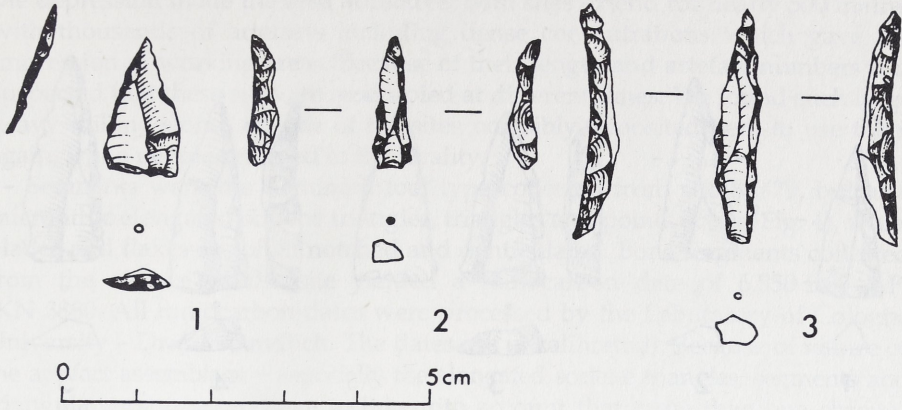


Fig. 3. Triangular point, perforators, elongated scalene triangles and shouldered bladelets from site 85/74.

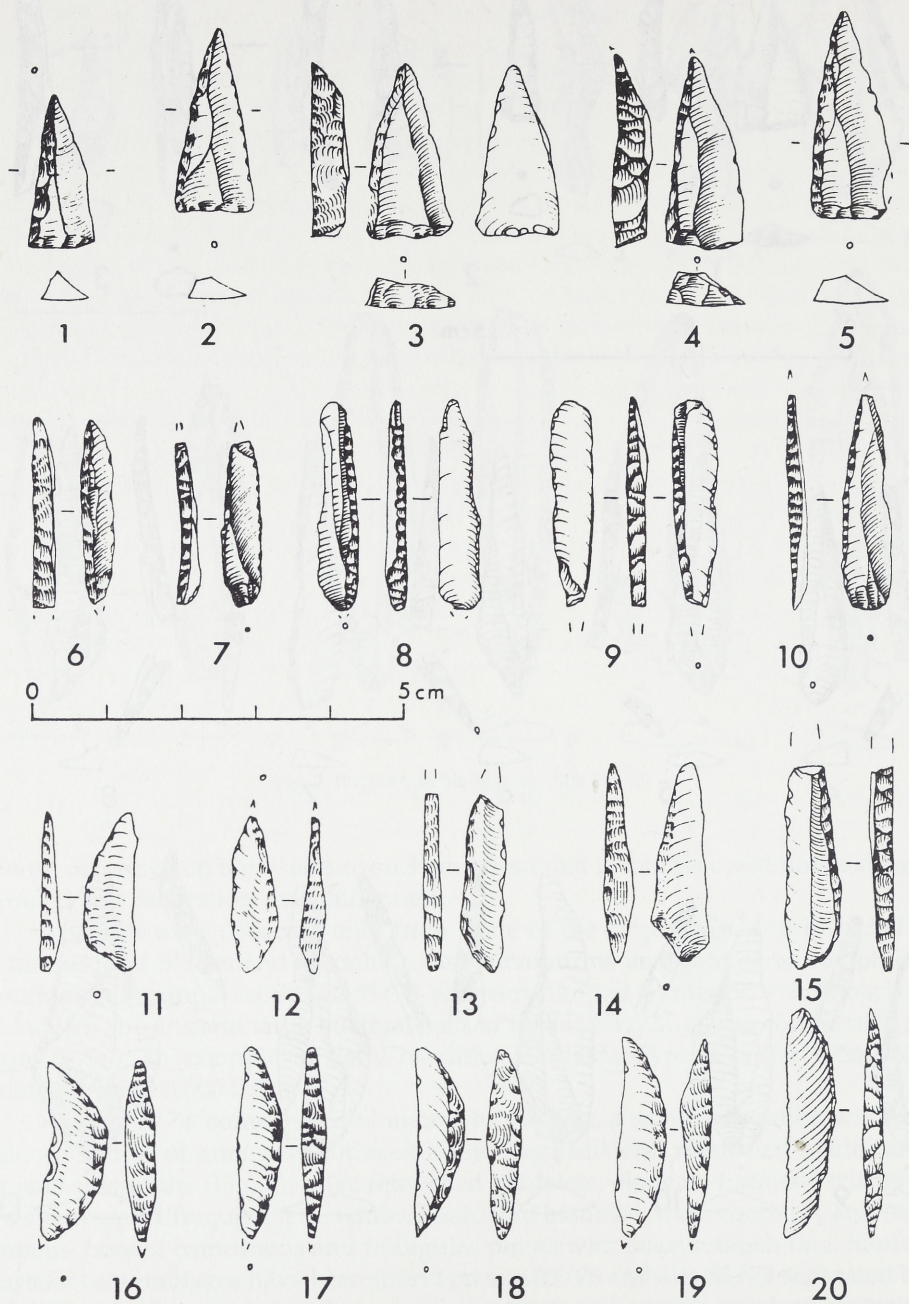


Fig. 4. Triangular points, backed bladelets, elongated scalene triangles and segments from site 85/79.

the depression made the area attractive. Both sites extend for nearly 500 metres with thousands of artefacts including dense concentrations which gave the impression of working areas. Because of their length and artefact numbers it is suspected that these sites are reoccupied at different times. We found such large heavy milling-stones on one of the sites possibly deposited here to use them again, when people returned to the locality.

Segments were the dominant tool type collected from site 85/79, but also microlithic elongated scalene triangles, triangles and points occur (Fig. 4), while blades and flakes are often notched and denticulated. Bone fragments collected from the surface of the site yielded a radiocarbon date of  $6,550 \pm 65$  B.P. (KN 3880. All radiocarbon dates were processed by the Laboratory of Cologne University – Dr. J. Freundlich. The dates are uncalibrated). Because of nature of the artefact assemblage – especially the elongated scalene triangles, segments and triangular points – we have to take into account that more than one chronological phase is represented on these sites. There was one grave within the scatter. The skeleton was buried in extreme contracted position, but without any grave goods. First determinations (by Chr. Simon, Université de Genève) suggests it was a male between 40 - 50 years old with a height of 1.7 m. The dating of this skeleton,  $6,630 \pm 160$  B.P. (KN 3646), fits well with the date just mentioned.

In a test excavation at Burg et Tuyur itself artefacts occurred to a depth of 1.2 m. At the lower level some Middle Palaeolithic artefacts were excavated, followed by strata containing sherds assigned to the Laqiya-Type, very common in Wadi Shaw and dated around 6,000 - 5,000 B.P. (Schuck 1988; 1989). Small well fired and burnished but otherwise undecorated sherds from the surface could be dated to the middle of the 4th millennium B.P. by comparison with ceramics from the Wadi Shaw. The stone artefacts have not yet been studied in detail but notched and denticulated pieces and microlithic segments dominate.

From 50 - 100 m north of this test excavation at Site 80/64-2 sample of tools was collected (Fig. 5). The major tool types were segments and elongated scalene triangles, backed bladelets and microburins were also frequent. Probably again an Early and Middle Neolithic phase could be identified here. Four radiocarbon dates are available from the excavation: three of them are dated to the beginning and the middle of the 6th millennium B.P. (KN 3705:  $5,990 \pm 170$ ; KN 3706:  $5,730 \pm 130$ ; KN 3708:  $5,690 \pm 140$ ), while one from the surface dated to the beginning of the third millennium B.P. (KN 3398:  $2,990 \pm 250$ ).

Comparable artefact assemblages had been excavated at sites in the Bir Kiseiba area and also in the Nile Valley (sites DIW 53 and 5: Schild, Chmielewska and Więckowska 1968; Shiner 1968; El Kab II: Vermeersch 1978) and the Dakhla Oasis (Wendorf and Schild 1977). On the other hand relationships can be seen with the artefact assemblages of Ti-n-Torha East (Barich 1974; 1976; 1987 [ed.]; Close 1987: 63 - 85), where elongated triangles and segments are frequent. Segments and triangular points have been seen as the diagnostic elements of the Middle Neolithic of the Eastern Sahara (Wendorf, Schild and Close [eds.] 1984) so that most of the artefact collections from the Selima Sandsheet could be ascribed to the Early or Middle Neolithic.

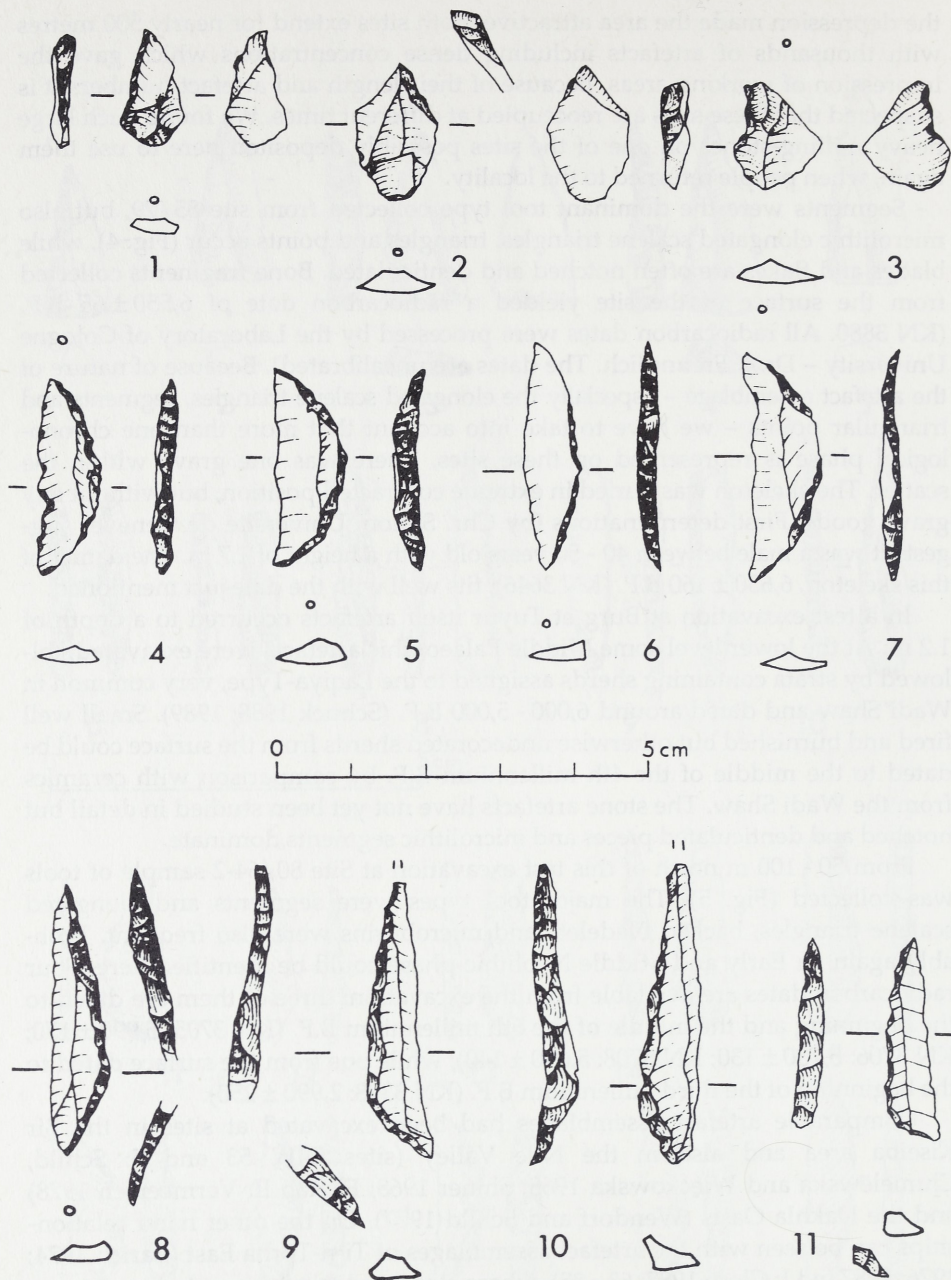


Fig. 5. Microburins, segments and elongated scalene triangles from site 80/64-2 (Burg et Tuyur).



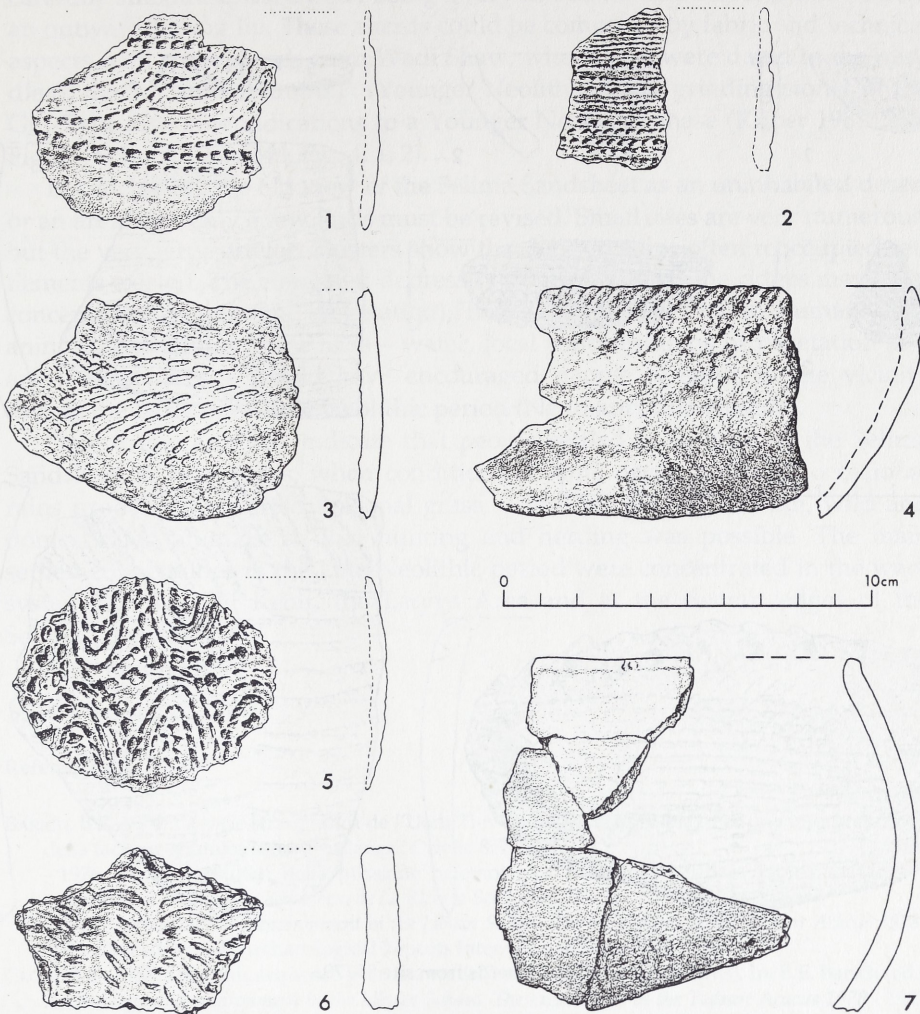


Fig. 6. Sherds from different sites in the Selima Sandsheet.

In general sherds from different sites are very homogeneous in fabric and decoration. The pottery is quartz-tempered and either reddish brown or greyish red. Because most of the sherds are extremely aeolized and very small, only globular bowls could be reconstructed (Fig. 6: 4, 7; 7: 2, 5). Two decoration techniques were employed: impression and punctation, the latter as a series of round dots. Impression otherwise was varied: parallel bands or rows of impressions occur as well as rockerstamp motifs. On some sherds impressions are rectangular (Fig. 7: 1, 7), while on other sherds they are more circular to long-oval (Fig. 6: 3; 7: 6). The motif of one sherd (Fig. 6: 6) is comparable with the chevron



Fig. 7. Sherds from site 85/79.

design of sherds from sites E-79-5 and E-80-5 (Connor 1984). One sherd is decorated with dotted-wavy-lines (Fig. 6: 5) while another one shows a composite decoration of parallel and curved lines of comb impression (Fig. 6: 1) and is very similar to sherds from Adrar Bous (Smith 1980: Photo 18: 4). Rim decorations are very uniform: short strokes perpendicular or angled to the outer edge (Fig. 6: 4; 7: 2). All these sherds are comparable to sherds from sites of the Nabta and Bir Kiseiba area where they would be placed within the Early or Middle Neolithic assemblages in the general Saharo-Sudanese-Tradition. This is also proposed for the lithic material.

Two brown sherds – one completely undecorated (Fig. 6: 7), the other one with three punctations on the rim – are different for the interior and exterior is

carefully smoothed, the temper being a very fine sand. One vessel is a bowl with an outward-flaring lip. These sherds could be compared by fabric and technical aspects with some sherds from Wadi Shaw, where they were dated to the middle of the 5th millennium B.P. (Younger Neolithic). Two grinding-stones of the Gilf-Type also give indications to a Younger Neolithic phase (Kuper 1981: 253, Fig. 29; Schuck 1988: 148, Fig. 4: 1, 2).

In conclusion, the old view of the Selima Sandsheet as an uninhabited desert or an area with only a few finds must be revised. Small sites are very numerous, but the very large artefact clusters show that long-lived or often reoccupied settlements existed. The elongated depressions between the dune ridges may have concentrated water (and vegetation), hence their attraction to humans and animals. Combining these facts – water, local concentrations of vegetation and animal resources – would have encouraged people to settle in the vicinity during the Early or Middle Neolithic period (Neumann, this volume).

Only a few artefacts indicate that people settled in or crossed the Selima Sandsheet in later times, when conditions became dryer, although occasional rains probably supported seasonal grass, useful for grazing of both, wild and domesticated animals, so that hunting and herding was possible. The main settlement activities in the Late Neolithic period were concentrated in the wadi systems of the Gilf Kebir, the Laqiya Area and at the eastern edges of the Selima Sandsheet.

## References

- BARICH, B.E. 1974. La serie stratigrafica de l'Uadi Ti-n-Torha (Acacus, Libia). Per una interpretazione della facies a ceramica sahara-sudanesi. *Origini* 8: 7 - 184.
- 1976. Recenti risultati della Missione paleontologica Italiana del Sahara Libico: la facies a microliti del Ti-n-Torha. *Quaderni de La Ricerca Scientifica* 100(1): 153 - 172.
- 1987. *Archaeology and environment in the Libyan Sahara. The excavations in the Tadrart Acacus 1978 - 1983*. Oxford: British Archaeological Reports International Series 368.
- CLOSE, A.E. 1987. The lithic sequence from the wadi Ti-n-Torha (Tadrart Acacus). In: B.E. Barich (ed.), *Archaeology and environment in the Libyan Sahara. The excavations in the Tadrart Acacus 1978 - 1983*: 63 - 85. Oxford: British Archaeological Reports International Series 368.
- CONNOR, D.R. 1984. Report on site E-79-5 and E-79-5B: the archaeology of El Balaad Playa. In: F. Wendorf and R. Schild (assemblers) and A.E. Close (ed.), *Cattle-keepers of the Eastern Sahara: the Neolithic at Bir Kiseiba*: 165 - 189. Dallas: Department of Anthropology, Institute for the Study of Earth and Man, Southern Methodist University.
- HAYNES, C.V. 1982. Great Sand Sea and Selima Sand Sheet, Eastern Sahara: geochronology and desertification. *Science* 217: 629 - 635.
- 1983. Quaternary studies, Western Desert, Egypt and Sudan, 1975 - 1978. *National Geographic Society Research Reports* 15: 257 - 293.
- 1985. Quaternary studies: Western Desert, Egypt and Sudan 1979 - 1983 field seasons. *National Geographic Society Research Reports* 19: 269 - 341.
- IDRIS, G. 1988. *Burg et Tuyur-Fundplätze 85/78 und 85/79. Ein Beitrag zur Steinzeitlichen Besiedlung der Selima Sandsheet (Nord-Sudan)*. Köln: unpublished M.A. thesis.
- KRZYŻANIAK, L. and M. KOBUSIEWICZ (eds.). 1989. *Late prehistory of the Nile Valley and the Sahara*. Poznań: Poznań Archaeological Museum.

- KRAUSE, M. (ed.). 1986. *Nubische Studien. Tagungsakten der 5. Internationalen Konferenz der International Society for Nubian Studies, Heidelberg, 22 - 25 September 1982*. Mainz: Phillip von Zabern.
- KUPER, R. 1981. Untersuchungen zur Besiedlungsgeschichte der östlichen Sahara. Vorbericht über die Expedition 1980. *Beiträge zur Allgemeinen und Vergleichenden Archäologie* 3: 215 - 275.
- 1986. Wadi Howar and Laqiya. Recent Field Studies into the Early Settlement of Northern Sudan. In: M. Krause (ed.), *Nubische Studien. Tagungsakten der 5. Internationalen Konferenz der International Society for Nubian Studies, Heidelberg, 22 - 25 September 1982*: 129 - 136. Mainz: Phillip von Zabern.
- MCCAULEY, J.F., C.S. BREED, G.G. SCHATER, W.P. MCHUGH, B. ISSAWI, C.V. HAYNES, M.J. GROLIER and A. EL KILANI. 1986. Paleodrainages of the Eastern Sahara – the radar rivers revisited (SIR-A/B implications for a mid-Tertiary trans-African drainage system). *IEEE Transactions on Geoscience and Remote Sensing GE 24*: 624 - 648.
- SCHILD, R., M. CHMIELEWSKA and H. WIECKOWSKA. 1968. The Arkinian and Shamarkian industries. In: F. Wendorf (ed.): *The prehistory of Nubia 2*: 651 - 767. Dallas: Fort Burgwin Research Center and Southern Methodist University.
- SCHILD, R. and F. WENDORF. 1977. *The prehistory of Dakhla Oasis and adjacent desert*. Wrocław: Ossolineum
- SCHUCK, W. 1988. Wadi Shaw – eine Siedlungskammer im Nord-Sudan. *Archäologisches Korrespondenzblatt* 18 (2): 143 - 154.
- 1989. From lake to well – 5000 years of settlement in Wadi Shaw (Northern Sudan). In: L. Krzyżaniak and M. Kobusiewicz (eds.), *Late prehistory of the Nile Valley and the Sahara*: 421-429. Poznań: Poznań Archaeological Museum.
- SHINER, J.L. 1968. The Khartoum variant industry. In: F. Wendorf (ed.) *The prehistory of Nubia 2*: 768 - 790. Dallas: Fort Burgwin Research Center and Southern Methodist University.
- SMITH, A.B. 1980. The Neolithic tradition in the Sahara. In: M.A.J. Williams and H. Faure (eds.), *The Sahara and the Nile Quaternary environments and prehistoric occupations in northern Africa*: 451 - 465. Rotterdam: A.A. Balkema.
- VERMEERSCH, P.M. 1978. *Elkab II: L'Elkabien, Epipaléolithique de la Vallée du Nil Egyptien*. Bruxelles/Leuven.
- WENDORF, F. (ed.). 1968. *The prehistory of Nubia 2*. Dallas: Fort Burgwin Research Center and Southern Methodist University.
- WENDORF, F. and A.E. CLOSE. 1984. An archaeological survey near Bir SafSaf, Eastern Sahara. *Cahiers O.R.S.T.O.M. Series Geologia* 14(2): 194 - 196.
- WENDORF, F., R. SCHILD and A.E. CLOSE (eds.). 1984. *Cattle-keepers of the Eastern Sahara. The Neolithic of Bir Kiseiba*. Dallas: Southern Methodist University.
- WENDORF, F., A.E. CLOSE and R. SCHILD. 1987. A survey of Egyptian radar channels: an example of applied archaeology. *Journal of Field Archaeology* 14: 43 - 63.
- WILLIAMS M.A.J. and H. FAURE (eds.). 1980. *The Sahara and the Nile Quaternary environments and prehistoric occupations in northern Africa*. Rotterdam: A.A. Balkema.