Palaeoecological evidence from neolithic fireplaces in the Sahara

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Abstract
Circular concentrations of stone fragments or pebbles occur widely in the Sahara, mostly on the great alluvial plains or along the foot of the escarpments. They are interpreted as fireplaces, but associated archaeological remains are usually scarce. More than 50 radiocarbon dates indicated that these features are of neolithic age, ranging from ca 9000 to ca 3500 bp, with a maximum occurrence at 5800–5000 bp. In some regions they are extremely rare, elsewhere their density may exceed 30 per square kilometre. There are several reasons for attributing these fireplaces to neolithic cattle herders.

Résumé
Il y a de nombreuses concentrations circulaires de fragments de pierre ou de galets au Sahara; ils se trouvent surtout dans les grandes plaines alluviales, ou le long du pied des escarpements. On les interprète comme des foyers, mais d'habitude on n'y trouve que très peu de restes archéologiques qui y sont associés. Plus de 50 datations au radiocarbone ont indiqué que ces sites datent du Néolithique, s'échelonnant de ca 9000 à ca 3500 bp, avec une forte concentration entre 5800 et 5000 bp. Dans certaines régions ces sites sont très rares, tandis qu'ailleurs leur densité peut être supérieure à 30 par kilomètre carré. Pour plusieurs raisons on attribue ces foyers à des pasteurs des bœufs du Néolithique.

Introduction
Peculiar agglomerations of pebbles or rock fragments are frequently encountered in the Sahara. The individual stones are usually 3 to 10 cm in diameter, while the agglomerations—or ‘stone places’ as we have called them (Gabriel 1973–1984b)—vary from 50 cm to 3 m in diameter (Fig. 1). Their height is insignificant, about 20 cm or less. In most cases artefacts are associated with them, but the proof that the stone heaps are artificial comes from traces of fire, either charcoal or ashes between the pebbles, or the black colour and fragmentation of individual stones. We are now able to interpret these features as places where people cooked their food without the use of pottery. Material for radiocarbon dating is generally scanty and less than 5% of the stone places have yielded enough charcoal for radiocarbon dating.
Figure 1  A typical stone place in southern Libya, consisting of more than 100 pebbles of different types of stone.

(cf. also Connor 1984b: 147). Features of this type were observed by Caton-Thompson (1952) in Kharga, by Aumassip (1972) at Oued Mya in Algeria, and by geomorphologists in Fezzan (Coque 1973; Meckelein 1959). Recently Connor (1984a, b) investigated them in southern Egypt. In fact they are widely distributed all over the Sahara (Gabriel 1973, 1976, 1977a).

**Economic evidence**

Stone places are especially abundant in the great plains of the Sahara, called *reg* or *serir*. Their distribution is not linear—along wadis, escarpments or along the shortest distances between two oases, for example. They occur not only on old caravan routes, but also on the extreme outskirts of recent habitation and within inaccessible dune areas, as well as widely on the surfaces of vast *regs* or *serirs*. They are generally found on fine-grained alluvial sediments, being usually absent on rocky plains. Their distribution is thus dependent on a pedological substratum which would have permitted growth of grass under wetter climatic conditions.

The wide distribution of these archaeological features suggests that people not only traversed these regions to get from one point to another, as they do today, but that they lived there and were able to support themselves from local resources and products. However, it seems that they had a nomadic way of life since their remains are never abundant around the stone places. A few untypical artefacts associated with fragments of ostrich eggshells are sometimes the only relics. Pottery and ground stone tools are scarce, but grinders are quite common. No walls, signs of durable settlement, or layers of midden can normally be found.