stylistic variations are between the level of linguistic groups. Such stylistic variation appears not dissimilar to that recognised by a number of workers among European post-glacial arrowheads.

The impression left by the Conference was of the disparate-ness of approaches to the prehistoric past being pursued. Its success was that each of these approaches had something to offer in tackling the problems of European and even British early archaeology. The participants felt well satisfied.

QUARTZITE PEBBLE CHOPPER-TOOLS FROM COASTAL SITES IN SOUTH DEVON

by Ted Masson Phillips

The object of this short paper is to draw attention to some pebble choppers of quartzite which occur on coastal sites in the South Hams area of Devon, and which are concentrated in the immediate vicinity of Lannacombe Beach (SX 802372) where at least thirty examples have been found in the ploughsoil of small fields on the low cliffs formed from thick deposits of 'head', resting upon a wave-cut schist platform at 3.5m O.D., attributed to the Epi-monastery or first interstidal of the last glaciation (Zeuner 1959, 354; 1964, 242). The 'head' is believed to represent the periglacial solifluxion deposits of the ensuing cold period or periods (Mottershead 1971).

At Lannacombe a copious stream provides fresh water, and this may account for the numerous finds on the small fields on either side of the beach. In addition these artefacts may be found all along the coast from Prawle Point to Start Point; on an inland site (SX 772367) close to a spring at 130m O.D. and about a mile from the sea, to the west of the village of East Prawle; and on a coastal plateau at 120m O.D. at Bolberry Down (SX 685385) west of Bolt Head. It is, of course, possible that they occur in other places along the coastal belt but their presence only becomes known at those points where small fields, subject to ploughing, have been established. These fields were actively worked for early vegetables during and after the last war, but are no longer cultivated and have returned to grassland. A complete description of the Lannacombe sites, with an account of the geomorphology of the area and details of the chopper-tools found, has been published by the author (Phillips 1958).

Fig. 1 illustrates a typical example of a bifacially-flaked chopper-tool from Lannacombe (east), made from a discoidal pebble of quartzite from a local beach. The ultimate source of these pebbles, which occur in some quantity on the beaches, is apparently the Bunter pebble-beds of the Trias, exposed in the floor of the English Channel, to the south-west of the area. Fig. 2 illustrates a primary waste flake, also from Lannacombe (east), detached in the manufacture of a pebble chopper. Such flakes occur in the ploughsoil with the choppers themselves and demonstrate that the tools were made in situ. It should perhaps be emphasised that, in spite of careful search, no artefacts have been found in the exposures of 'head' below the soil layer.

Experiment has shown that the choppers are readily made by the use of a hammerstone to detach flakes from part of the circumference of a suitable pebble by blows first on one side and then on the other. Some examples have been made by
flaking from one side only. One specimen, from Lannacombe, has a minutely pecked area, some 30mm in diameter, on each flat face, suggesting use as an anvil stone. Another possibility is that the pitting was intended for a finger-and-thumb grip.

These chopper-tools have the appearance of very primitive implements, but, in this particular instance, there is conclusive evidence against great antiquity from the fact that both the choppers themselves and the flakes detached in their manufacture occur together, in unrolled condition, in shallow ploughsoil. Accompanying flint and chert artefacts, all flaked from beach pebble material, range from mesolithic (Phillips 1981) to neolithic in age, hence it may be presumed that the choppers are contemporary and represent the heavy equipment of a poor coastal community, with a food-gathering economy, depending largely on fish, crustaceans and shell-fish found on and near the shore.

Many specimens from the coastal belt are included in the Bellville Collection at Torquay Museum. Others are at present in the possession of the author.

References

MEASURING AND PRESENTING LENGTH AND BREADTH DATA OF STRUCK FLAKES AND FLAKE TOOLS: SOME OBSERVATIONS AND PRACTICAL SUGGESTIONS
by Steve Ford

In a previous issue of this newsletter, Saville (1980) discussed the inadequacies of current methods of producing and presenting length, breadth and thickness data, and suggested a more standardised approach. While in sympathy with the major themes covered by Saville, there are one or two suggestions and observations which merit further discussion.

Firstly I would like to suggest an improved method of collecting these data. Saville measures flakes etc. by placing them on graph paper, bulbar surface uppermost and with the aid of a set square, simply reads off the appropriate values of length and breadth of the rectangle into which the object just fits (Saville 1980, fig.1). This method is greatly aided by mounting the graph paper on board and by placing side and end stops attached along the length and breadth axes. These stops become the base lines of the axes as demonstrated in Fig.1. Measurements of thick irregular pieces are also easier to take when the flatter bulbar surface is placed face down. Similarly the board can be used for measuring thickness by holding the flake on edge against one of the stops. Although not as accurate as a slide gauge, this measurement certainly becomes faster and easier to perform by this method.

Almost any stiff material can be used to construct the board so long as the side and end stops are rigid, vertical, and correspond exactly with the base lines on the graph paper. This is easily achieved by nailing two wooden blocks to a piece of hardboard as shown in Fig.1. A board with the dimensions indicated was found to be suitable for neolithic and bronze age assemblages.

One observation of this method is that it is possible for two flakes of radically different size and shape to have identical measurements as shown in Figs.2a and 2b. It is obvious from these diagrams that 'dimensions at right angles to the striking platform' and 'dimensions along the bulbar axis' are not to all intents and purposes the same as suggested by Pitts (1980, 22). Although less important in later neolithic and bronze age assemblages with which the author is most familiar, where this occurs for only 1-2% of the total, it is nevertheless an inadequacy of the method.