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 shellfish 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.
adopted above and requires clarification. The author has attempted to overcome this problem by including a sketch of the flake shape with the length and breadth measurements. This allows the ambiguous effects of extreme shapes to be clarified, as well as the quantification of flakes occurring in specific shape categories (e.g. Isaac 1977, 192). However, the usefulness of producing flake shape data has yet to be adequately demonstrated or debated, and will not be considered further in this paper.

Finally, Saville suggests that length and breadth data should be presented in tabular form. I propose that in addition to tables these data should be presented graphically as a scattergram, using breadth and length as the x and y co-ordinates respectively. This method has several uses. It provides at a glance estimates of the size, shape and homogeneity of the items in an assemblage as well as allowing accurate calculations of numbers of examples in a given class. For example, in Fig. 3 the number of flakes having a length:breadth ratio of greater than 5:2 is calculated by counting the number of dots to the left of the appropriate line. In addition, because the data are presented in a primary form, it is possible to calculate numbers of items in any length:breadth class or size range.

This method has been used on several previous occasions (e.g. Bell 1977, 22), and although a visually desirable effect has been produced, difficulty can be experienced when attempting to extract the original data accurately from the published version. Great care has to be taken therefore to produce a clear illustration with suitable axial reference points.

References