determined on whole wool staples. It should be stressed that these wools were grown on flock sheep which grazed under very exposed conditions where photochemical decomposition would be very severe. The average results and their standard errors are given in Table 2.

TABLE 2

Quality	No. of samples	Alkali solubility per cent
Good	46	13·0 ± 0·2
Fair	84	11·3 ± 0·2
Poor	43	10·7 ± 0·3

These results clearly illustrate that the relationship between quality and solubility in alkali is still valid even when whole wool staples are used for the test, although the results are not so sensitive as those reported in Table 1. This finding should be of considerable interest to the blender and topmaker. It is a well-known fact to the top trade that it is possible to produce different types of tops at a given fibre diameter (quality number), each with its own characteristics suitable for particular branches of the trade. With an alkali solubility test it should now be possible to characterize a blend or top at a given quality number. A top with a low solubility in alkali is not expected to exhibit the same good spinning properties as a top with a higher solubility in alkali[11]. On the other hand a top with a low alkali solubility should be more resilient, rigid and harsh to handle. Unpublished results of this laboratory show that the good quality wools felt much better than the inferior qualities. A blend with a too high alkali solubility should, therefore, also be unsatisfactory from a spinner's point of view as such wools would tend to felt during scouring with subsequent difficulties during carding and combing.

Routine determinations of the solubility of wools in alkali and urea-bisulphite solutions by producer and manufacturer, in association with the usual dimensional characteristics of the fibres, should permit of more aspects of wool quality being brought under control. This new approach to wool quality should provide a more precise link between producer and manufacturer and thus remove a major disability.

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PREHISTORY

Dating of Australian Prehistory

AUSTRALIA, to prehistorians, is the least known continent. At most, the three million square miles available for aboriginal nomadism are represented by four or five excavations possessing chronological or cultural significance. There are several carbon-14 age estimations for aboriginal sites; but with one exception, they date unstratified surface hearths, or deposits where artefacts are either so generalized in type that they preclude satisfactory cultural designation or, as at Keilor, they are completely absent.

The exception is the Devon Downs rock shelter, in the Lower Murray valley of South Australia, excavated to a depth of 18 ft. This was in 1929. Because the excavators retained bulk samples of soil from each stratum, 25 years later it provided sufficient mussel shells from the layer 9 sample to enable the radiocarbon age estimation of 4250 ± 180 years. This dated horizon contained *pirris*, delicately retouched, symmetrical, uniface points, known from surface collections over half the continent; there is no record of their use by aborigines since European settlement.

For two months during 1956 and 1958 a University of Melbourne expedition excavated another shelter, at Fromm's Landing on the Murray, ten miles downstream from Devon Downs. In the largest controlled excavation so far attempted in Australia, a section 30 ft. long, 11 ft. wide and 16 ft. deep resulted. Twelve definite stratigraphic horizons were determined (numbered 0–11), all of which contained artefacts. The top five (0–4) were characterized by crudely made artefacts, which contrasted with the fine craftsmanship of lower levels; the same levels produced only one of the 41 bone implements recovered. Carbon-14 age determinations were made on two samples submitted to Dr. T. A. Rafter, at Lower Hutt, New Zealand. An age of 3240 ± 80 years was obtained from pieces of charcoal collected in level 4, six feet from the surface (*R*456/2).

Levels 5–10 were rich in cultural material. Four fusiform bones, probably intended as fish gorges, were found in levels 5, 6 and 7. Similar points were uncovered in the middle horizons at Devon Downs and termed *muduks*. Levels 6, 8 and 10 produced a total of five *pirri* points, while eight classic *microliths*, chiefly crescents, occurred in levels 8–10. Indisputable geometric *microliths* have never before been excavated in a stratified context in association with other implement types. It is evident, that at Fromm's Landing, *pirris* and *microliths* are of the same age. The occupation of level 10, 12 ft. from the surface and containing both types of artefact, has been dated to 4850 ± 100 B.P. (*R*456/1). The sample consisted of mussel shells.

This association of *pirris* and *microliths* is an important clue for the Australian prehistorian. It is significant that variants of both types appear in undated contexts in Indonesia[2]. It is also important that the Devon Downs date for the age of the *pirri* is confirmed by the new evidence. (The Devon Downs age estimation is for an horizon somewhat above the first appearance of *pirris* at that site). The next requirement is the excavation of sites in other areas, and the carbon-14 dating within stratified contexts, of these and other characteristic Australian implement types.

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