

# news and views

## Megalithic astronomy: a prehistorian's view

from Andrew Fleming

THE suggestion that the Neolithic and Bronze Age peoples of north-west Europe may have been brilliant astronomers and geometers has been met with stupefaction by prehistorians, who faced the recent spate of papers on the subject in total disarray. Most have not felt competent to judge the statistical and astronomical significance of the work of Alexander Thom and others. Professor R. J. C. Atkinson has now come to the conclusion, however, that it is more reasonable to change his model of European prehistory than to dismiss the results as due to chance (*J. History Astron.*, 6). It seems likely, however, that any model of European prehistoric processes which changed to accommodate Thom's ideas would itself strain credulity.

What is at issue is not the intelligence of prehistoric peoples, nor their capacity for organisation, nor yet the possibility that they were interested in the movements of the heavenly bodies. Indeed it is probable that they were so interested. There is good archaeological evidence for a Sun-cult in some areas. In north-west Europe it would be essential for early farmers to identify abnormal seasonal weather patterns, especially in the Highland Zone where so many of Thom's sites are located. There is some archaeological evidence for regional gatherings, which would have to be synchronised in some way; it is unlikely that ceremonials involving advance preparations of various sorts and careful scheduling of agricultural operations would have been summoned by casual smoke-signals at a few days' notice. Certainly lowlier species than man have annually synchronised behaviour patterns, the commencement of the breeding season being accompanied by individual and communal displays and a high level of social activity.

European prehistoric peoples also orientated their monuments roughly, displaying at least knowledge of the Sun's behaviour in relation to the local sky line. Indeed in the case of New Grange, the great third millennium passage grave in eastern Ireland, the midwinter Sun shines through the

'roofbox' and illuminates the chamber, which is at the end of a 15-m long passage—a very clever piece of megalithic design. Nor is this kind of habit confined to man; the satin bower-bird of Australia, for instance, orientates its 'bower' within 30° of 360°, which apparently has the effect of allowing the male to display while keeping the female in sight and without staring into the Sun she too can watch the impressive display in comfort.

In a recent article about the *Grand Menhir Brisé* at Er Grah in Brittany, Thom says "No one who sees Er Grah can fail to be impressed, or to ask the reason for its being there. Many explanations have been advanced but they all fail to account for the sheer size of the stone or indeed for its position." As a prehistorian I too am impressed by ceremonial monuments—including mediaeval cathedrals, follies, war memorials and so on—but this is simply a tribute to the visual effect of these socially integrative devices. Any astronomical 'explanation' will have to include an account of their role as monuments. Clearly the most convincing cases will be those where monumental design and significant alignment are integrated; New Grange and Stonehenge are good examples, and in south-west Ireland the main axes of the stone circles are clearly indicated. Lines which pass from the centre of truly circular structures through outlying standing stones also count as clearly indicated directions; so do the axes of Class II henge sites. One would expect the initial demonstration to have been established from these unambiguous types of site. Unfortunately, prehistorians are now faced with all manner of claimed astronomical directions, involving rugged skylines, broken, recumbent menhirs, excavated post holes, stone alignments, cairns and barrows, unexplained humps and bumps, and even in one case straight, presumably modern tracks. Standing stones can be interpreted as general pointers or precise indicators; at various times their tops, lower portions or flattened sides can be considered as significant.

In short, there is no standard type of

observatory—and this in an area embracing a zone from Brittany to the Orkneys—where the standard unit of length suggested by Thom, the 'megalithic yard' varied by less than one two-hundredth of an inch! This heterogeneity has to be properly explained, a task which has not been attempted so far.

We are not told how far some astronomical alignments may have been marked out at a later stage in a site's development, or how far the very position and layout of the site were determined by a set of previous astronomical observations. It would be interesting to know how many sites have no apparent alignments, and whether these conform to any regional or taxonomic pattern. If we are to believe that the role of these sites as observatories preceded and was more important than their ceremonial role, we also need to be shown how they might have operated within their societies. Prehistorians have never been told how far these sites could be used by a group of worshippers similar to the much-mocked modern Druids at Stonehenge and how far they are simply observatories used by the priests for calendrical or eclipse-predicting purposes. Certainly Thom at times suggests that eclipse prediction and 'special effects' may have been used to impress the populace. It is likely that in societies at this technological level ceremonials would have played an important role, but it is very hard to believe that the sort of mass manipulation envisaged by the 'crafty priests' school of thought would have been possible, necessary, or effective in rural Scottish groups. The functions discharged by ceremonial, and the need to have recognised ritual sites and other symbolic points in the landscape, would certainly have taken precedence over the painstaking manoeuvres necessary for the setting up of observatories.

Until some reconciliation can be achieved between the sites as ceremonial monuments and as complicated solutions to astronomical puzzles, it will take more than clever statistical arguments to convince prehistorians that more than a handful of the present claims can be justified. □