

The Navigator's Horizon

from Commander J. M. Chaplin, R.N. (Ret.)

IN his Presidential Address (*Journal* 16, 1) Dr. G. E. R. Deacon, C.B.E., F.R.S., says: 'We have learnt from the *Journal* that one of the most frequent sources of error is a poor horizon, and *recent* (my italics) experiments by our American colleagues have shown that much can be gained by fitting a more powerful telescope in the sextant so that stars can be used while the horizon is better illuminated. They showed that it is better to look at the star directly and to make the horizon the reflected image.'

Dr. Deacon has been misled. In the 'old' *Discovery* from 1925 onwards (and before that in various surveying ships, whilst on passage), in which I was Navigating Officer, the horizon was always brought up to the star. A 'sounding' sextant also was always used. This is lighter than an ordinary observing sextant and mine had a large, aluminium telescope, of much greater power than the star telescope of an ordinary sextant, and with a very large object glass.

It was, however, graduated only to minutes of arc. To overcome this the altitude was pre-set for every contact to fixed intervals of, I think, 5'; this had the additional advantage that if the time of the middle contact agreed with the mean of the others it formed an excellent check on the accuracy of the sights and could be seen at a glance.

I was responsible for fixing the positions of a very large number of stations of deep-sea soundings, etc., and my time-keeper, Midshipman W. P. O'Connor, R.N.R., and I reached a high state of proficiency and completed the 'fix' (three contacts of each of three stars at about 120° in azimuth from each other (usually) plus the calculations and plotting) in an incredibly short time.

This was important, since the *Discovery* when hove-to for deep-sea sounding and hydrological observations drifted like a paper boat and the quick fix reduced runs between position lines.

All this seems to show that there is nothing *recent* in this method, as no doubt there were others using it at that time, at least in our Hydrographic Surveying Service.