

Since the Admiralty Chart is undergoing changes which many of us would have thought drastic only a few years ago, it should not seem impossible now to consider more changes touching the navigator, the astronomer and the geographer. For example, might longitude, with advantage, be measured unambiguously to the westward from 0° to 360° , so simplifying change of date at 180° , and the conversion of G.H.A. to L.H.A.? Could marine clocks and chronometers be graduated from 0 to 24 hours, obviating the half-day ambiguity we now suffer? Again, should latitude and declination be measured from 0° to 180° from the north pole to give a more logical and unique description of terrestrial position and of the navigational triangle? And should bubble and marine sextants be graduated to read from the local vertical, giving a direct read-out of zenith distance? (A problem arises here, of course, in the use of the marine sextant for measuring horizontal angles.)

Those of us who might profess to be knowledgeable may well dismiss such questions as trivial—perhaps subconsciously hoping to preserve something of the mystique of the craft. The practising navigator of today is hardly in a position to judge dispassionately the merits of changes whose object is not necessarily to ease the burden of those currently navigating but to present a more logical system consistent with other disciplines—as in the adoption of the S.I. units. The changes interrogated here are not original proposals: they have been mooted wherever navigators meet for years past. But it seems that there is now a climate of change and we have seen the relatively painless adjustment made by marine navigators at the introduction of the G.H.A. Almanac. The views of navigators, cartographers, geographers, astronomers and computer mathematicians are needed to ensure that geographical and celestial position are uniquely and unambiguously defined in a framework which is eminently logical so that the practical man may observe and describe and, presumably, leave to a machine the tedious business of computation.

In America, Dunlap has asked ‘. . . where does the navigator stand today?’, and has answered, ‘For the great majority, still on the bridge, sextant in hand, waiting for the stars and horizon both to be visible.’² Nevertheless, this navigator should surely be waiting with concepts which will readily translate to the heralded computer age.

REFERENCES

- 1 Turner, R. (1968). The metrication of navigation. *This Journal*, 21, 81.
- 2 Dunlap, G. D. (1968). Marine navigation: Where we stand—what needs to be done. *Navigation, U.S.A.*, 14, 357.

The Improvement of Navigation Lights and Signals

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The Forum comments about small craft lights by Bernard Hayman¹ clearly shows up a shortcoming in the original argument put forward.² In relegating the

single white light to small craft, and then forgetting it, I have failed to develop this particular argument to its conclusion.

Although I cannot agree with Mr. Hayman's reasoning, the shortcoming must be rectified. To this end, may I propose that: 'Vessels of less than 65 ft., propelled by any means (sailing vessels by definition are excluded from this), to show a single white light, visible all round the horizon for a distance of at least 5 miles. This light to be not less than 9 ft. above the gunwale. These vessels also to show sidelights prescribed in Rule 7(a(ii)), or if less than 40 ft. in length, may show in lieu the lantern prescribed in Rule 7(d).' The rules for small sailing vessels and those for small vessels engaged in towing are perfectly adequate as they are.

This development, however, does not affect my original contention in any way. The single white light remains one of the greatest difficulties at sea, owing to its variety of meanings. Mr. Hayman suggests that any single white light has an automatic right of way. This seems a potentially dangerous over-simplification of a complex situation; it also begs the question at issue. This is not whether action should be taken, but rather what action should be taken. The great disadvantage of the single white light is that it does not tell us (a) how a vessel is heading or (b) what type of vessel she is. The action taken to avoid a crossing small boat differs radically from that taken to keep clear of a vessel being overtaken, or, say, a vessel of less than 150 ft. in length, at anchor; yet all show the same light. At present the bridge watch-keeper has little but his previous experience and the history of the development of the situation to guide him.

It is suggested that the original article was orientated strongly toward the problems of the big ship. This is quite correct, and was intentional, for it is with the big ship that the problems mainly lie. When he has to make an alteration to avoid collision, the big ship navigator is only given one chance. Once committed to a course of action, particularly helm action, there is very little scope for changing it, and if the officer of the watch makes the wrong decision, a nasty accident must almost inevitably ensue.

Every penumbral area of doubt in the regulations increases this risk, and the single white light is one of the classic cases. My suggestions are aimed towards removing all possibility of doubt, by limiting one light to one meaning. If the bridge watch-keeper could be placed in the situation of never having to opt for one of several meanings when faced with a particular light, ship avoidance would be a simpler and safer operation.

REFERENCES

- 1 Hayman, B. (1968). Improvement of navigation lights and signals, *This Journal*, 21, 84.
- 2 Lindsay, D. J. (1967). Improvement of navigation lights and signals. *This Journal*, 20, 249.

A NEW APPOINTMENT FOR THE PRESIDENT

Professor A. Stratton, President of the Institute, has been appointed from 1 October 1968, Director of the Defence Operational Analysis Establishment at the Ministry of Defence.