

4. A rule of thumb procedure to calculate rhumb-line distances correctly with no more labour than that which has always been used to do it wrongly.
5. A method (with table) for use on the spheroid when the track angle is nearly 90° and the method Turner discusses is impracticable.
6. A survey of methods and tables then current.

Subsequently, the meridional distance table was published (with acknowledgments) in the 1951 edition of Burton's Nautical Tables. The *Notes* included an explanation and a worked example.

A few years ago, I was told that the method had found practical application in calculating the sector lengths to set up on airborne navigation computers used with doppler and also in the statistical analysis of the accuracy of such systems. I gather from Turner's paper that sailors just carry on as before.

REFERENCES

- ¹ Turner, R. J. (1970). Rhumb-line sailing with a computer. *This Journal*, 23, 233.
- ² Williams, J. E. D. (1950). Loxodromic distances on the terrestrial spheroid. *This Journal* 3, 137.

Metrication and the Nautical Mile

R. J. Turner

ALTHOUGH Admiral Ritchie does not agree, I still think that some significance does attach to the difference between the British Standard Nautical Mile and the International Mile.¹ It is a matter of definition and is of vital importance to the young student beginning to study navigation. Unless basic definitions are clear and unambiguous continual difficulty arises which obscures practical considerations of the reliability of measurements that are made. Moreover, it is extremely unfortunate that the length of a minute of arc of a meridian was ever given the label 'mile'—a standard of measurement of distance, or that anyone should ever have suggested measuring distance with a unit of variable length. The confusion that has been caused in the minds of student navigators over the years is enormous and the opportunity now exists for this source of confusion to be removed.

However, all this is beside the point. 'Whether the nautical mile should be abandoned altogether in favour of S.I. units is another question'—it is the question and is what the discussion is about. The proposal is to adopt S.I. units, and to suggest that a 'nautical kilometre' is contemplated is to put forward one of those private metric systems that are to be deplored.

It was stated that one reason for metrication, namely international standardization, had not been mentioned by me. Since the decision has been made to adopt the *Système International d'Unités* (S.I.) it seemed unnecessary to labour the point. However to quote from *The Use of S.I. Units*,² 'The United Kingdom

is changing to the métric system at a time when a rationalized system of metric units, the *Système International d'Unités* (S.I.), is coming into international use. The S.I. derives all the quantities needed in all technologies from only six basic and arbitrarily defined units. This contrasts with the metric systems currently used, in which additional quantities are arbitrarily and indeed differently defined in different metric countries. Relationships between units are thus greatly simplified in the S.I., the introduction of which offers existing metric countries a unique opportunity to harmonize their measuring practices. This opportunity is now being seized. Already some 23 countries have passed or are preparing legislation to make the S.I. the only legal system of measurement and it is therefore a logical choice for the U.K.' Admiral Ritchie says 'now that this country is going metric, it is timely to conform to the I.H.B. resolution of 1929.' In view of the international standardization now taking place it would seem to be equally timely for the I.H.B. to conform to current international practice and to abandon the nautical mile in favour of the appropriate S.I. unit.

I renew the plea that a decision to retain the nautical mile should only be taken after proper discussion followed by a specific statement of why the retention of the nautical mile will be more advantageous (to all concerned) than a proper change to S.I. units.

REFERENCES

1. This *Journal*, 23, 388.
2. British Standards Institution (1967), *The use of S.I. Units*. (P.D. 5686.)

The Case for Revision of Routing

from The Trinity House and the Honourable Company of
Master Mariners

THE Trinity House and Honourable Company of Master Mariners would, of course, have much preferred to comment on Commandant Oudet's latest article in the same edition as the article appeared (*Journal*, 23, 371). However, as we could only be afforded a weekend in which to give a considered reply this was clearly impossible, bearing in mind the grave and far-reaching issues involved.

We would wish to set out our reasons for re-consideration of the present routing:

After over three years' practical experience of the present routes, certain difficulties have arisen and require urgent consideration—difficulties due largely to the fact that the requirements for safe navigation of ships now in service bear little resemblance to the requirements in 1964, when the present routes were formulated. One of the main difficulties has been that of a dramatic increase in draught but this was predictable and should have been allowed for, indeed