This would appear to be the right form of presentation of radar in the wheelhouse where the natural orientation of the radar targets to the position of the ship's head is most important for the purpose of collision avoidance. Even whilst taking avoiding action the situation is clearly seen, without confusion due to the clarity of the screen and lack of smear. For those times when a radar fix is to be transferred to a chart the tube can be made to revert to 'north upwards' for a quick visual comparison. The 'ship's head up/north up' switch only controls the tube position, not the radar information on the tube. On switching from one presentation to the other the tube rotates with the unsmeared picture on it, giving a clear picture at all times.

Ministry of Transport Examinations

from Captain G. E. Stephenson

If the day is not far off when communication satellites will lessen a navigator's dependence on conventional astronomical aids it is surely overdue for the deletion of obsolescent and superfluous items from the M.O.T. syllabus for candidates.

Of the three 'standard' formulae for finding a position line from an altitude of a celestial body (ex observer's meridian) only one, Marcq St. Hilaire, is in general use at sea today. The other two, Longitude by Chronometer and Latitude by Ex-meridian, depend for survival on the patronage of the Ministry of Transport and the Nautical Schools.

The M.O.T. still requires the candidate to name two points on the position line, neither of which in practice is considered to be the observer's most likely position, but he has always been free to choose his own means of finding these points.

It is regrettable that such liberty of choice is denied to students in our Nautical Training Schools who insist that three alternative methods of solving the triangle should be learnt.

The use of radar in conjunction with single visual bearings and the increased numbers of radio beacons operating continuously have deprived the transferred position line of most of its former glory. Its last stronghold is the noon 'position' when this is obtained from use of a single body. Position lines derived from star observations are now universally computed by the intercept method, regardless of azimuth or adjacency to the meridian or prime vertical.

If the use of this omnicompetent formula were accepted in its entirety by the Ministry of Transport it would remove hereditary misconceptions of the value of a single observation, and a quite unnecessary burden from the minds of aspiring navigators.

The 'Longitude' by Chronometer and 'Latitude' by Ex-meridian should be confined forthwith to the lumber room of Victoriana, with the legendary arts of rigging jury rudders, parbuckling pole-shaped objects up a ship's side, lowering

telescopic topmasts and the complicated protocol concerning meetings with long extinct China tea-clippers.

Captain C. H. Cotter comments:

IT is unusual, but nevertheless refreshing, to find a serving shipmaster complaining about Ministry of Transport examiners and Nautical School teachers. It is largely due to a complacent attitude of too many qualified Master Mariners, in respect of these matters, that the system of training in Senior Colleges of Navigation has fallen into the degenerate state that it now finds itself.

I agree wholeheartedly with the view that the intercept method, being general in its application, provides the best method for sight reduction, so that if a navigator wishes to solve his PZX triangles he would be well-advised to discard all methods except the intercept method.

Captain Stephenson is not correct in saying that only one of the three methods of sight reduction is in general use today. A very large number of Merchant Naval officers use the 'longitude method' for their morning Sun sights; and it appears that some use the same method for reducing star sights as well. Other remarks made by him are also untrue: these, however, are of trivial importance compared with that of the real issue he raises.

Captain Stephenson appears to lay part of the blame for the perpetuation of archaic methods of navigation and seamanship on the shoulders of teachers in Nautical Schools. It is true that teachers in Senior Schools of Navigation insist upon their students learning—or at least remembering on the day of their examination—all that the Ministry of Transport examiner requires of them. But this is not a matter of their choice. Nautical instruction in these schools is geared entirely to Ministry of Transport examinations. The emphasis is on the passing of the examination instead of on the course of instruction that should lead up to the examination. It is for this reason that many of our nautical colleges are cramshops of the worst category.

As time goes on nautical instruction given in Senior Schools of Navigation is becoming more and more out of phase with the practical requirements of the modern shipmaster. It will not be until our system of nautical education and training is rationalized, and realistic courses of instruction appropriate to the age in which we live replace the present ridiculous arrangements (which appear to satisfy employers), that teachers like myself will be able to play a significant and useful role in instructing officers of a service on which depends, in no small measure, the prosperity of the nation at large.

Grid Navigation

from J. Garbasz

THE use of the Greenaway grid (curved) lines has enabled us to measure grid directions correctly on a Lambert chart (in middle latitudes). However, due to the fact that some charts are printed with only straight grid lines (such as the