

self-contained. Methods such as Mackay's, and tables such as Raper's spherical traverse table, have long since passed into the rich history of science.

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Progress in Port Approaches

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DENSE fog prevailed over the whole of the Thames area for three days from 1518 on 18th through to 1900 on 21st December 1972, with no real clearances of significant extent or duration throughout this period. Such prolonged fog had not occurred there since December, 1962.

It may therefore be encouraging to make some comparisons to help judge what progress has been made in port approaches in the decade involved and to draw what conclusions we can from this.

(1) In December, 1962, the service was still relatively new and only about 40 per cent of the shipping in the Thames was fitted with v.h.f. Approximately 50 per cent was then fitted with radar.

(2) In December, 1972, with the service long established, over 90 per cent was fitted with v.h.f., and by this time approximately 90 per cent had radar.

(3) During three and a half days of continuous dense fog in December, 1962, records show only eight sea-going vessels moved in the river.

(4) During the three days in December, 1972, a total of two hundred and fifty-six sea-going vessels moved.

(5) As a recent comparison with (4), for the identical period in December 1971, which was clear weather throughout, the total movement was three hundred and seventeen vessels, so we see a very high proportion of the clear weather figures moving in fog, but under a controlled condition.

It is clear from this that there has been a dramatic long-run improvement in the facility and conduct of fog navigation in these waters since 1963—as was indeed the intention of the navigation services and of those owners who equipped their ships to modern standards.

The organizational and legal changes introduced from 1964 onwards, notably the enforcement of the 'clearway' channel and 'lay-by' anchorages and the wholly new powers of General and Special Directions for Navigation vested in the navigational authority since 1968, have contributed greatly to this. It is through these powers that a measure of order and conformity, through man-

datory procedures, has been imposed on the traffic flow. Such influence however can only be exercised through the medium of some form of centralized organization ashore.

The willingness of almost every vessel to follow without question the necessary instructions given for the general benefit was a most noticeable feature of last December's operations. This feature is, perhaps, the most significant development to have occurred in such waters for a very long time. By this means can a clear fairway be maintained for the execution of rational movements as required under the over-riding circumstances of berths and terminals at the time, which are now the deciding factors in the programme.

This was very amply demonstrated during the recent performance.

Maybe the greatest lesson of all comes from the fact that on 19th December a small vessel was sunk, fortunately without loss of life. This ship had no v.h.f., no radar, and no pilot—surely food for thought.

A Cautionary Tale

P. R. J. Reynolds

I SUPPOSE this incident might be entitled 'How not to find a lightship'. It took place in the 1930s while I was serving in the *M.S. Potter*, one of the United States Line's long-haul cargo motorships of the period. She was a three-island, five-hatch ship which could lift eight-thousand tons and move it at eleven knots. She was my home for five years and wound up as part of a breakwater at the Normandy beachhead.

Navigationally, about the only concession that she and her sisters made to modernity was the fact that they were power-driven. There were no RDFs, no echo-sounders, a taffrail log was towed and, when on soundings, depth was ascertained by means of the poop-mounted Kelvin 'sounding machine'. There were still those among our seniors that thought an enclosed wheelhouse, which we did have, contributed to the decadence of the race.

We had completed discharging an Australia-ECNA general cargo at St. John, New Brunswick, and were returning to New York empty for a few days of voyage repairs after which we would go on the loading berth for India, China/Philippines or back again to Australia. Our regular Skipper was on leave for the coasting voyage and would rejoin on the loading berth; his relief was a respected senior Master but a relatively unknown quantity to us three deck officers who had been in the ship for some years.

Our course lay from the Bay of Fundy, around outside of the Nantucket Shoals light-vessel and thence to the Fire Island light-vessel in the New York approaches. It was a crystal clear day in February with a north-west gale creating quite a lumpy sea and causing us to make considerable, too much as it transpired, allowance for leeway due to our light condition. I had the first watch and the Skipper joined me on the bridge after lunch as we expected to pick up the (Nantucket) light-vessel at about 1400 hours; we were dead reckoning on the