

of the raft, provided there had not been complete dispersion or sinking due to water logging, circumnavigated the Southern Ocean by the time the 'tail' of the raft passed Tasmania in early 1965. This gives an idea of the extent of the longitudinal dispersion of the raft under the influence of the West Wind Drift from the time of its first sighting in March 1962, when it covered a degree and a quarter of longitude<sup>3</sup>. The average drift speed of the fine pumice gravel which appears to form the 'tail' of the raft, based on its arrival on Australian shores, is about 6-7 miles/day. This agrees quite well with the speed of 8 miles/day quoted by Deacon<sup>27</sup> for the drift of objects in the West Wind Drift lying more or less awash and presumably not greatly assisted by wind pressures.

### Ornithological Implications

The recovery of pumiceous balls, mentioned earlier, from mutton bird (*Puffinus tenuirostris*) fledgelings in Bass Strait in late March 1963 (ref. 2) is of ornithological interest. The balls were found in the stomachs of fledgelings on Big Dog Island in the Furneaux Group on March 29. On examination the pumice balls appear to be petrologically identical with the pumice stranded on southern Australian coasts in 1964, and chemically show the same potash and soda content (Table 2). The Australian strandings are correlated with the South Sandwich Island raft, and knowledge of the position of the raft at the time of recovery of the pumiceous balls from the fledgelings should give information on the feeding range of the parent birds.

The front of the South Sandwich Islands raft apparently reached Macquarie Island in June 1963. Barber, Dadswell and Ingle<sup>25</sup> record that: "A message bottle dropped about 1,250 miles to the east of Macquarie Island was recovered from that Island 10 weeks later". This gives a surface drift speed of at least 18 miles/day, which is also the average drift speed previously determined for the front of the South Sandwich Islands raft. Calculations based on these data suggest that at the time of the recovery of the pumiceous balls from the fledgelings in Bass Strait, the front of the raft was, at least, about 1,200 miles west of Macquarie Island. The raft was presumably not farther north than latitude 47° S., as shown by the absence of strandings on Tasmania and Stewart Island until several months after the front of the raft crossed these longitudes.

On this basis the parent mutton birds must have flown about 1,000 miles to the south-west of their breeding ground to have picked up the pumice. Even if allowances are made for a possible over-estimation of the drift speed of the pumice raft in the milder than normal westerly spring weather of 1963, a conservative estimate suggests a south-westerly flight of at least 500 miles. Pumiceous

balls were again recovered from mutton bird fledgelings on Bass Strait Islands in the following breeding season in 1964 (M. Olsen, personal communication), but by this time pumice had drifted into Tasmanian waters. Other cases of sea-birds, notably the skua, picking up floating pumice were observed at Macquarie Island in 1963 (K. G. Simpson, personal communication) and at Heard Island (P. J. Stephenson, personal communication) in 1963.

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## NEWS and VIEWS

### Electronic and Electrical Engineering in the University of Birmingham

E. D. R. SHEARMAN, senior lecturer in the Department of Electronic and Electrical Engineering in the University of Birmingham, has been appointed to an additional chair in that Department. The new chair is being established from October 1, 1965, as a result of the continued growth of the Department of Electronic and Electrical Engineering. There will thus be four professors in this Department; the others are Prof. D. G. Tucker (head of Department), Prof. J. T. Allanson and Prof. H. A. Prime. The Department will soon be moving to a new building and already has nearly 120 graduate workers and staff in addition to the undergraduate students.

### Prof. E. D. R. Shearman

MR. SHEARMAN graduated with first-class honours in electrical engineering from the Imperial College of Science and Technology in 1945. He was awarded four Premiums from the Institution of Electrical Engineers for outstanding merit in his publications. From 1945 until 1947 he worked with the Admiralty on naval communications, and from 1947 until 1961 at the Radio Research Station, Slough, on radio propagation and ionospheric research. During 1960 he spent six months in Canada assisting in the design of the *Alouette* topside-sounder satellite. Since 1961 he has been senior lecturer in electromagnetism in the University of Birmingham, where he has built up an active research group in communication systems. He