vičić discontinuity in the ocean basin and a P_n velocity of 8·27 km/sec. This velocity apparently decreases across the margin of the continent to a value of 8·05 km/sec which was obtained by DOYLE and EVERINGHAM (1964) from atomic explosion studies. However, it is possible that the latter value may have been affected by the slope of the discontinuity. The results across the continental margin to the south of Pt. D'Entrecasteau are not as conclusive. The base of the oceanic crustal layer is indicated as shallowing towards the continent to a depth of about 10·5 km, roughly 120 km south of Pt. D'Entrecasteau. The underlying velocity is calculated as 8·07 km/sec but this figure could include travel times from an intermediate layer in the zone of crustal transition. Although insufficient data are available to resolve this point, the likelihood of an intermediate layer is enhanced by the recording of velocities of 7·3 km/sec at Mundaring Observatory near Perth from explosions off the coast and from quarry blasts (DOYLE and EVERINGHAM 1964).

HEATH G. ROSS and THEODORE C. MOORE JR., 1965. Subbottom profile of abyssal sediments in the Central Equatorial Pacific. *Science*, 149 (3685): 744–746.

A north-south subbottom acoustic profile made in the central Pacific Ocean shows that the first layer (unconsolidated and semiconsolidated sediments) increases in thickness from less than 200 m at about 14°N to more than 600 m near the equator. Two major faults, one of which lies on the extension of the Clipperton fracture zone, have produced vertical separations of about 400 m in the base of the first layer.

HEIRTZLER JAMES R. and XAVIER LE PICHON, 1965. Crustal structure of the mid-ocean ridges. 3. Magnetic anomalies over the Mid-Atlantic Ridge. *J. Geophys. Res.*, 70 (16): 4013–4033.

Fifty-eight magnetic profiles of varying length, were used in a study of the magnetic anomaly pattern over the Mid-Atlantic Ridge between 60°N and 42°S. It was found that there is a basic pattern to the magnetic anomalies. A large anomaly is everywhere associated with the axis of the ridge. This anomaly is continuous over all latitudes except for offsets at fracture zones. This anomaly is caused by a volcanic body of limited width and depth which has an upper surface at, or very near to, the sea floor. This large axial magnetic anomaly is located in a zone of otherwise small anomalies. The axial magnetic zone is of the order of 1000 km wide and is centered on the ridge axis. The limits of this axial zone are marked by anomalies of larger amplitude and longer wavelength on the lower flanks of the ridge. The axial anomaly and the axial zone are apparently characteristics of the entire mid-ocean ridge system. It is shown that the high heat flow over the Mid-Atlantic Ridge elevates the Curie-point isotherm to such an extent that an observable magnetic effect is produced.

HESS F. R. and L. V. SLABAUGH, 1965. A shipboard cable-hauling system for large electrical cables. *Deep-Sea Res.*, 12 (4): 537–538.

An air-powered hauling machine and reeling device for use at sea with large electrical cable systems such as hydrophone arrays is described. The system may be used to haul cables from 0·3 to 2·0 in. diameter. Hauling tensions up to 980 lbs and speeds up to 430 ft/min are provided. The principal advantage of the system is that it does not cause the cable to bend while under tension. Reeling is accomplished under only sufficient tension to cause the cable to conform to the reel.

HESSLER ROBERT R. and HOWARD L. SANDERS, 1965. Bathyal Leptostraca from the continental slope of the northeastern United States. *Crustaceana*, 9 (1): 71–74.

Deux espèces de Leptostraca ont été recueillies au cours d'un programme de récoltes benthiques, sur une radiale entre Marthas Vineyard, Massachusetts, et les Bermudes. *Nebalia typhlops occidentalis* n. subsp. a été trouvée vers le haut du talus continental par 500 m environ. *Nebaliella caboti* se trouvait à 2085 m de profondeur près de la base du talus.

HORNIBROOK N. de B., 1965. A preliminary statement on the types of the New Zealand Tertiary Foraminifera described in the reports of the *Novara* Expedition. *New Zealand J. Geol. Geophys.*, 8 (3): 530–566.

The types of Foraminifera collected by Hochstetter from Orakei Bay (Lower Miocene) and Raglan Harbour (Oligocene), described in the Report of the *Novara* Expedition (1865) by Karrer and Stache and deposited in the Natural History Museum in Vienna have been examined and compared with topotype material. Matching collections have been deposited in the British Museum (Nat. Hist.) London, and the New Zealand Geological Survey, Lower Hutt, and lectotypes have been selected from the original material. A list is given of the original names, adopted genus, action regarding types, location of identified topotypes, and the inferred status of the species.

HUBERT W. E., 1965. Computer produced synoptic analyses of surface currents and their application for navigation. *Navigation, J. Inst. Navig.*, 12 (2): 101–107.

The available methods for estimation of wind currents, mass transport velocity by waves and permanent flow (thermohaline gradient current) are briefly summarized and a simplified computer approach is outlined. The computed synoptic surface currents are compared with monthly mean current charts and with surface wind conditions. This analysis indicates that the surface currents are greatly wind-driven. A detailed verification procedure which will use the observed changes in sea surface temperature is outlined. The use of the synoptic current fields for computation of divergence