

the methods of capture, the technical difficulties of operating dredges and trawls at great depths being of considerable moment, but I do not attach great importance to this, because the same appliances, when used in deep water on the continental slope, gave large catches.

Hauls in
depths of
1500 to 2000
fathoms.

If we fix the boundary of the abyssal plain at the 2000-fathoms line, we may consider the area between the 2000- and 1500-fathoms lines as an intermediate zone between the abyssal plain and the continental slope. In this zone the "Challenger" made 25 hauls with trawls and dredges, with the result that three times as many fishes per haul, and twice as many invertebrates, were captured as on the abyssal plain. The "Michael Sars" made 3 hauls with the trawl in such depths, which, compared with our results from the abyssal plain, are very interesting, and invite inspection of their details:—

- Station 35. South of the Canaries, 1424 fathoms (2603 metres). Trawl dragged two hours. Result of haul: Many silicious sponges (including *Hyalonema*), hundreds of holothurians, large prawns (*Benthesicymus*, n.sp.), 18 bottom-fish (9 Macrurids, 1 *Bathysaurus*, 2 *Halosauropsis*, 5 *Alepocephalus*, 1 *Hariotta*).
- " 53. South of the Azores, 1430 to 1570 fathoms (2615 to 2865 metres). Trawl dragged three or four hours. Result of haul: 2 large and many small sponges, 3 mussels, 5 cirripeds (*Scalpellum*), 30 large prawns (*Aristeopsis*), 15 hermit crabs, 5 *Pentacheles*, 1 large white decapod (*Munidopsis*, n.sp.), 500 holothurians, 39 bottom-fishes, (17 *Macrurus*, 5 *Halosauropsis*, 2 *Benthosaurus*, 2 *Bathysaurus*, 2 *Bathypterois*, 6 *Alepocephalus*, 5 *Synaphobranchus*).
- " 88. North of the Azores, 1700 fathoms (3120 metres). Result of haul: a great number of holothurians, sea-urchins, starfish, ophiurids, some crustaceans (*Polycheles*, *Munidopsis*, *Parapagurus*), 21 bottom-fishes (17 *Macrurus*, 1 *Bathysaurus*, 3 *Histiobranchus*).

These hauls plainly show that the appliances of the "Michael Sars" were excellently suited for the capture of bottom organisms, fish as well as invertebrates. Indeed in one single haul (Station 53) we caught nearly as many individual bottom-fishes as the "Challenger" captured in its twenty-five hauls in depths between 1500 and 2000 fathoms. I think we are justified in concluding that the vast difference between our captures on the abyssal plain and these three hauls in 2600 to 3200 metres represents an actual difference in the abundance of animal life in the two regions. The fauna of the abyssal plain must be very poor compared with the more abundant life met with, at all events in the Atlantic, in depths of about 3000 metres and less, where the fauna is infinitely richer in number of species as well as in number of individuals. Perhaps the most striking contrast is