would be interesting to know how the mine could be in the course of working before the winding pits are sunk.

In his next chapter, on the valuation of a going colliery, Prof. Dron commits an error into which very many, perhaps the majority, of mining engineers are apt to fall. He tabulates for a valuation of a colliery the estimated future output and the life of the coalfield; in other words, he commences by stating what the quantity of coal is which the field in question contains. This is a fact that neither he nor anyone else can know in advance; he might be entitled to state that the field is estimated to contain a certain quantity of coal, though the more correct statement would be that the most probable quantity of coal contained in the field is so much, the most probable quantity being that which is as likely to be exceeded as to be fallen short of when the coal comes to be actually worked. Until it is worked, no one can say how much the field actually contains.

Prof. Dron deals very briefly with the problem of deferred royalties, and it seems evident that he has not seen the elaborate discussion of the subject in a paper on "The Value of a Deferred Annuity, with Special Reference to the Valuation of a Mineral Property," by Charlton Carpmael (*Jour. Inst. Actuaries*, vol. 56, pp. 25-72; 1925).

In conclusion, it may be said that the chapters here selected for detailed criticism are on a subject which is perhaps the most difficult and the most controversial of any in the book; and the fact that different views are here put forward on many points to those advanced by the author must not be taken as any indication that the book is not an exceedingly valuable one; indeed, it is likely to be of the utmost use to all colliery engineers.

British Sea Anemones.

The British Sea Anemones. By Dr. T. A. Stephenson. Vol. 1. (Ray Society Volume No. 113.) Pp. xiv + 148 + 14 plates. (London: Dulau and Co., Ltd., 1928.)

WHILST in some branches of science, especially physics, there are so many workers in the field that monographs can be continually revised, in others many years must pass by before an expert can bring our knowledge up-to-date. Dr. T. A. Stephenson, one of the two leading workers on anemones at the present time, is to be congratulated on his effort to bring together and set in order the facts known about British sea anemones, their structure, development, bionomics,

and classification. It is the first successful attempt to supplement the famous work of Gosse completed so long ago as 1860, when the comparative anatomy of anemones had not been studied.

It will perhaps be a disappointment to some who have looked forward to the appearance of this important work that the body of it is apparently being held back for a subsequent volume. Although the author lays stress on the fact that for the purposes of the monograph a clear understanding of anatomy is necessary, it is doubtful whether the general reader will feel urged to read through the technical and well-illustrated section on structure, which occupies the greater part of the text, until the appearance of the next volume: this will presumably contain descriptions of the species. But the remaining sections, particularly that on bionomics, are full of absorbing interest.

The author describes the different haunts of these animals; and points out where the best collecting grounds are, and which species can best be maintained in aquaria. Interesting notes are given of the rapid way in which some anemones can move about, of how they capture and digest their food, and, above all, of the various methods of reproduction, even at the mature age of three score years and ten. He instances one anemone which, as soon as it begins to rove about, leaves behind pieces of its base, which, retaining hold of the substratum, regenerate into normal individuals. True budding is not a characteristic of these animals, the total absence of colonialism and skeleton building being correlated with a relatively active habit. Their ancestors were probably creeping, bilaterally symmetrical forms, and radial symmetry supervened when a more sedentary life was adopted.

Dr. Stephenson is an artist of no mean order, and has drawn a number of beautiful and convincing studies of living anemones. He is careful to explain, however, that individuals can look quite unlike the portraits given of their particular species, and that his illustrations necessarily represent fleeting aspects of selected colour varieties of most changeable organisms. He goes into the questions of coloration and pattern, and the methods of collecting and maintaining anemones in aquaria. Notes are given on natural enemies and messmates. The author mentions their use for fishermen's bait, and that they form a considerable part of the diet of some fish like cod, whiting, haddock, and especially flounders. A long list of works on anemones is given, and the reader is shown where to look for information under various sub-headings.

A. K. TOTTON.