

### Human Monstrosities.

*The Mystery and Lore of Monsters: with Accounts of some Giants, Dwarfs and Prodigies.* By C. J. S. Thompson. Pp. iv + 256 + 32 plates. (London: Williams and Norgate, Ltd., 1930.) 15s. net.

MR. C. J. S. THOMPSON, who is known to medical men because of contributions made to the history of their art, has published, in book-form, gleanings he has gathered concerning the ancient lore of human monsters. His book will make a wide appeal, not only to those who are interested in the 'lore of monsters', but also to embryologists who are in search of the rarer aberrations undergone by the human body in the course of development. His text is clear and easy, and is enriched by many illustrations of 'prodigious births' which have adorned the records published by writers in former centuries.

Down to the end of the seventeenth century, it is difficult to know whether the abnormalities which are described had actually been seen by authors or only imagined. Lycosthenes, who wrote "*Prodigiorum ac Ostentorum Chronicon*" in 1557, illustrated by 1500 woodcuts, gives the following account of the 'terrible child' who was "born in Craconia of noble parents. It had bright fiery eyes, the mouth and nostrils like an ox's. It had long horns and a black fur like a dog's and on its breasts, faces like apes. It was splay-footed, and splay-handed. The feet were like swan's feet and it had a tail twined upwards, that was crooked backwards about half-an-ell long. It was born and lived four hours and then spoke thus, '*Watch, the Lord our God comes*'."

The ancient Babylonians, Egyptians, and Greeks believed any combination of human and animal parts was possible; indeed, the study of ancient records is a study of human credulity rather than of embryological aberration. We are not surprised, however, that George Buchanan, the Scottish historian, who did so much to strip myth from truth in the records of his own country, should write rationally and with interest of monsters. "About this time (1490)," he says, "a strange kind of monster was born in Scotland. In the lower part of the body it resembled a male child, differing nothing from the ordinary shape of the human body, but the trunk and all other members became double and were distinct both in their use and appearance. The King caused it to be carefully brought up and educated, particularly in music, in which it wonderfully excelled. It learned different languages, and in their various inclinations the two

bodies appeared to disagree between themselves, sometimes disputing, each preferring different objects and sometimes consulting for the common pleasure of both."

Mr. Thompson cites examples which taxed the learning of clergymen as well as of surgeons. The clergymen had to determine whether the monster was to be regarded as being made up of two souls or of only one, and whether, in baptising, two names had to be given or if one would suffice. The surgeon's perplexities were of a less metaphysical nature: Was the bond which joined two bodies of a kind which could be severed? If one part of the monster died, could the living part be saved? Modern surgery is now attacking these problems—often successfully.

In the eighteenth century, the study of monsters entered its scientific stage; schemes of classification, based on a knowledge of normal development, were devised; only in the present century did we enter the further stage of learning how monsters could be produced experimentally. Mr. Thompson has brought a wide and accurate knowledge to bear on "*The Mystery and Lore of Monsters*".

### Biochemistry in America.

*The Development of Physiological Chemistry in the United States.* By Prof. Russell H. Chittenden. (American Chemical Society Monograph Series, No. 54.) Pp. 427. (New York: The Chemical Catalog Co., Inc., 1930.) 6.00 dollars.

THIS is a review of the evolution of physiological chemistry in the United States during the past fifty years. Prof. Chittenden has seen it all happen, from the starting of the first laboratory of physiological chemistry in Yale in 1874 until the present day, when practically every university in the country has a staff of competent investigators and well-equipped laboratories, besides the agricultural experiment stations and laboratories of the Government bureaux at Washington, which are the admiration of the scientific world.

At the beginning, it was necessary for American and British students to go to Germany for training—Chittenden went to Kühne in Heidelberg in 1878. A start had been made in Germany in the study of natural products, although the golden age did not commence for another decade, when Kossel and Emil Fischer in particular introduced more precise chemical accuracy into the field; the reproach that "*Thierchemie ist Schmierchemie*" had been too true.

The author traces the development of laboratories, equipment, societies, and journals, and then

gives a running commentary, arranged mainly under schools, on the workers whose activities have increased knowledge.

The work of W. O. Atwater on nutrition will always remain a classic, and his dietary studies led to the first standard diet. His work with the respiration calorimeter, later followed up with such success by Benedict, has been prolific of results.

The study of vegetable proteins was taken up energetically by Osborne from 1891 onwards; he produced more than one hundred publications, which form the basis of the chemical knowledge of this group.

H. D. Dakin's work on the amino acids and his  $\beta$ -oxidation hypothesis, that of Walter Jones on nucleic acids, of P. A. Levene on nucleic acids and the carbohydrate group, are only a few instances of the long list of positive achievements which are detailed. They suffice to show that the organic chemist has definitely entered the field of natural products. The task of unravelling their constitution and their molecular structure by analysis is near completion, many of them have been synthesised, a hint has been gained of their function, yet how much remains to be done. The best men in the best-equipped laboratories the world over have problems enough for many years to come. How, for example, are meat and milk made from grass? Will it take another half-century to answer this question?

The book is one of the American Chemical Society Monograph Series, and is produced in clear type with the high standard that characterises the series.

E. F. A.

### Short Reviews.

*Die Beschneidung bei Mann und Weib: ihre Geschichte, Psychologie und Ethnologie.* Von Felix Bryk. (Monographien zur Ethno-Psychologie, herausgegeben von F. Bryk und C. L. Hansen, Band 1.) Pp. x + 319. (Neubrandenburg: Gustav Feller, 1931.) 15-60 gold marks.

THE need for detailed monographs on genital mutilations has long been felt, and above all a sound and scholarly treatment of circumcision was desirable. This book, however, scarcely fulfils that want. It is a very general account of a number of different operations, but is without orderly plan, and the author has clearly been unable to deal satisfactorily even with the limited number of authorities he quotes, or to appreciate the vast distribution of the practices under discussion. Instead of confining himself to the matter on hand, he wanders off to discuss male infibulation, *ampliatio vaginae*, perforation of the clitoris, and many other similar practices. The result of this is that the

author becomes lost in his own maze: the very multiplicity of the customs bewilders him, and he ends by coming to few new conclusions at all. He quotes largely from Biblical sources, whilst failing to realise that the ideas of earlier civilisations were better worth his ink. Whilst rightly rejecting Reitzenstein's attempts to find evidence for circumcision in palæolithic times, he fails to understand that the ritual significance of the custom is the point on which his attention should have been focused.

According to the author, circumcision of the male arose partly at least from the desire to imitate domestic and other animals which were observed in copulation. To this was added the supposed desire on the part of early man to increase the ease of the process in himself, and the recognition of the hindrance a partial or total phimosis caused to him.

Thus this volume is merely a sketch of genital mutilations, and as such is useful for the purposes of summary. The illustrations are well chosen, the printing good, and the indexes of value. But as a guide towards solving the mystery of circumcision the book is not helpful. It is an epitome of current theories and we cannot pretend that these are convincing. Circumcision still awaits its shrewd interpreter.

E. J. DINGWALL.

*Femcifrede Logaritmer og Antilogaritmer* (Five Figure Tables of Logarithms and Anti-Logarithms). By A. K. Erlang. Udgivet ved (edited by) R. E. H. Rasmussen. Pp. 48. (København: G. E. C. Gads Forlag, 1930.) n.p.

(2) *Addition-Subtraction Logarithms to Five Decimal Places.* By L. M. Berkeley. Pp. xii + 134. (New York: White Book and Supply Co., 1930.) 3.25 dollars.

(1) THIS is a clearly printed table of logarithms and antilogarithms to five places with a four figure argument and mean differences. A seven place table of  $\left(1 + \frac{r}{100}\right)^n$  for  $n = 1$  to 9 and  $r = 0.00$  to 7.50 is appended.

(2) If  $a$  is greater than  $b$ , the addition logarithm of  $\log a$  and  $\log b$  is  $A = \log \frac{a+b}{a}$  and the subtraction logarithm is  $S = \log \frac{a}{a-b}$ , so that  $\log(a+b) = \log a + A$  and  $\log(a-b) = \log a - S$ . Evidently  $A$  and  $S$  are functions of  $a/b$  only so that  $\log a - \log b$  can be used as argument for a table of  $A$  and  $S$ . The present table is arranged in triple columns corresponding to  $\log n$ ,  $\log \frac{n+1}{n}$ ,  $\log(n+1)$  so that the central column is the addition logarithm of two logarithms which differ by  $\log n$  and the subtraction logarithm of two logarithms which differ by  $\log(n+1)$ . This central column proceeds by unity in the last figure so that  $A$  and  $S$  are found without interpolation. The table is thus in effect a critical table, but is not arranged in the form usual in such tables. The use of addition and subtraction logarithms allows long trains of calculation to be performed without reverting to natural numbers, for