

THURSDAY, JULY 15, 1909.

## REGENERATION.

*Experimental-Zoologie*. Part ii., Regeneration: Eine Zusammenfassung der durch Versuche ermittelten Gesetzmässigkeiten tierischer Wieder-erzeugung. By Dr. Hans Przibram. Pp. viii+338; 16 plates. (Leipzig and Vienna: Franz Deuticke, 1909.) Price 14 marks.

THE second part of Dr. Hans Przibram's "Experimental Zoology" has so far only been published in German, but it is to be hoped that an English translation will follow in due course. It will be a matter for regret if the efforts of the Cambridge University Press to provide English-speaking biologists with standard editions of works which are otherwise accessible only in a foreign language do not receive sufficient support to justify their continuance. The present volume, which is very considerably larger than the first (reviewed in NATURE, March 4, p. 2), deals with the secondary aftergrowth of lost parts, embracing the phenomena of morphallaxis and deformation. The allied subject of grafting, which finds a place in Prof. Morgan's work on "Regeneration," published eight years ago, is not systematically dealt with, but it may well be that this is reserved for special treatment in the final volume on function. The subject-matter of the part now under notice is divided into eight chapters, dealing successively with the different groups of the animal kingdom, from the Protozoa to the Vertebrata. To these is added a general summary, containing an account of the general laws which govern the regenerative processes and their development in phylogeny. There are sixteen coloured plates, which are bound at the end of the volume, but these are so overcrowded with figures as to tend towards confusion, and the execution is not good. The work is adapted for purposes of reference rather than for continuous reading, and is furnished with an extensive bibliography, in which few omissions are to be detected.

In dealing with the power of compensatory hypertrophy possessed by the generative glands, the author alludes to the fact that although unilateral castration is said to promote an increased growth on the part of the remaining testis, the number of spermatozoa found in the semen is very appreciably diminished, at least according to Lohde's observations. These statements, however, are not necessarily conflicting, since Ancel and Bouin and others have shown that in all probability the interstitial cells of the organs, and not the spermatogenic tissue, are responsible for the normal testicular influence which is exerted upon the secondary sexual characters and the organism as a whole; and so it may perhaps be, in general, that it is the interstitial rather than the seminiferous portion of the testis which undergoes hypertrophy after one-sided castration. Moreover, the time which Lohde allowed to elapse after extirpating the single testis was probably too short to admit of definite conclusions being drawn regarding the power of compensation possessed by the remaining testis. Dr. Przibram

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notes the occurrence of thyroid regeneration following the partial removal of that organ, but he omits to state that in certain cases the parathyroids are capable of regenerating tissue containing colloid substance, and so resembling, if not identical with, normal thyroid tissue. Neither does he mention that in rabbits and other animals which can survive thyroidectomy the function of the thyroid appears to be taken over by the pituitary, in which the cells of the *pars intermedia* show an increased activity, as manifested especially by a greater secretion of colloid. Both these processes are probably to be regarded as instances of functional restitution in allied organs of the body.

The regeneration of the uterine mucosa after parturition and menstruation is alluded to, but there is no reference to Heape's papers, which deal more fully than any others with the nature of the post-menstrual recuperative processes. Furthermore, there are certain omissions in the literature dealing with teratological science. Nevertheless, the work, as it stands, contains by far the most comprehensive account of the subject of regeneration that has as yet been written, and, as such, it constitutes an important addition to the literature of experimental zoology.

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## A NATURALIST IN TASMANIA.

*A Naturalist in Tasmania*. By G. Smith. Pp. 151. (Oxford: Clarendon Press, 1909.) Price 7s. 6d. net.

TASMANIA is the smallest of the Australian States, and its scientific interest is out of all proportion to its size, while its magnificent scenery, picturesque lakes, rugged mountains, noble forests, and its combination of vegetation of tropical luxuriance with a temperate summer climate will always make it one of the most attractive of Australian tourist resorts. The State has still a small and scattered population; internal communication and railway construction are exceptionally difficult, so, though it was the second in date of Australian colonies, much of the island is still very imperfectly known.

Mr. Geoffrey Smith, of New College, Oxford, made an expedition to Tasmania in 1907-8, aided by a British Association grant, in order to investigate the primitive shrimps inhabiting its lakes. The short volume gives a charmingly written narrative of his journey, and it is illustrated by some of Beattie's beautiful photographs and excellent drawings of some Tasmanian animals, such as that of the Tasmanian Devil (*Sarcophilus*), by Mr. Goodchild. It is accompanied by a geological sketch-map based on Johnston's.

Mr. Geoffrey Smith is enthusiastic over the beauty of Tasmanian scenery. He deals especially with the districts near Hobart and around the Great Lake on the Central Plateau. He gives a short note on the aborigines, with illustrations both of their heads and skulls. On the vexed question as to the relation of the Tasmanians, he is emphatic (p. 28) that—

"Whether the Tasmanian race ever inhabited the mainland of Australia or not, it is certain that neither in their physical characters nor in their culture have they anything to do with the Australian blacks, whose

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