

the literature of the muscle controversy explains these discrepancies by showing that each observer has figured his specimens in different states of extension. With slight contraction Flögel's granules disappear, then Dobie's globules; finally in completed contraction the two heads of adjacent sarcous elements come together and the fibril is momentarily homogeneous, the former complexity reappearing on extension. Such phenomena can readily be explained, if we regard the doubly refracting portions as aggregation granules whose union and separation is rendered linear by the bounding surface of the fibril, rendered symmetrical by the fixed points of Krause's membrane, and rhythmic by regularly applied nervous stimulus, the attractions and surface tensions of these globules and elongated masses thus effecting a contraction of the muscle, the elasticity and capillarity of the fibrillar sheath acting for its extension. The sum of the tendencies of the innumerable elongated aggregation masses of a muscular fibre towards the spherical form at once accounts for the shortening and broadening of the muscle and the overcoming of resistance. This view agrees too with what recent researches have revealed as to the development of muscular substance and with Strasburger's observations on the striated border of some active Amoebae. Such a hypothesis has innumerable corollaries, but it is sufficient for the present to point out its increased applicability to the cell cycle, since the increase and decrease of cellular activity upon which that depends should be largely associated with corresponding variation in aggregation.

Zoological Laboratory, School of medicine, Edinburgh, 6. June 1883.

III. Mittheilungen aus Museen, Instituten etc.

1. Zoological Society of London.

19th June, 1883. — The Secretary read a report on the addition, that had been made to the Society's Menagerie during the month of Mays and called special attention to a fine example of the Surucucu or Bush-maste, Snake of South America (*Lachesis mutus*), presented by H. Y. Barkley, Esq. of Pernambuco, on the 22nd of May. — The Secretary read an extract from a letter received from Mr. Albert A. C. Le Souëf, containing observations on the coloration of the plumage of the Satin Bower-bird (*Ptilonorhynchus holosericeus*). — Prof. E. Ray Lankester, F.R.S., read a memoir on the muscular and endoskeletal systems of *Limulus* and *Scorpio*, drawn up by himself with the assistance of his two pupils, Mr. W. J. Barham and Miss E. M. Beck. These investigations seemed to confirm Prof. Lankester's previously expressed views as to the near affinity of these two forms, hitherto usually referred to different classes of the Animal Kingdom,

and to justify the association of *Limulus* with the Arachnida. — A paper was read by Dr. Gwyn Jeffreys, F.R.S., F.Z.S., on the Mollusca procured during the cruise of H.M.S. 'Triton' between the Hebrides and Faroes in 1882. Ten new species of Gastropoda were described, and another species (*Fusus Sabini*) was fully diagnosed. The chief interest of the paper consisted in the distinction of the Mollusca inhabiting the »warm« and »cold« areas of that sea-bed, in accordance with the views of Dr. Carpenter and the late Sir Wyville Thomson. — A communication was read from Mr. Martin Jacoby, containing descriptions of some new species of Beetles belonging to the family Galerucidae. — Prof. P. Martin Duncan, F.R.S., read a paper on the Madreporarian genus *Phymastraea* of Milne-Edwards and Jules Haime, and gave the description of a new species obtained on the west coast of India, which he proposed to call *Phymastraea irregularis*. — Dr. J. S. Garson, F.Z.S., read a paper on the anatomy of the Pygmy Hog of Nepal (*Porcula salvania* of Hodgson), as exhibited in a female specimen of this animal which had lately died in the Society's Gardens. Dr. Garson came to the conclusion that this animal was not sufficiently different from the true Pigs (*Sus*) to warrant its generic separation. — A communication was read from Mr. Osbert Salvin, F.R.S., containing an account of a series of Birds collected by Capt. A. H. Markham, R.N., at various points of the western shores of the Pacific, from Esquimault on the north to the Straits of Magellan on the south, including some from the Galapagos Islands and from the island of Juan Fernandez. — Mr. E. W. White, F.Z.S., read some notes on the Birds of the Argentine Republic, being a supplement to two former papers read before the Society on the same subject. — A communication was read from Mr. A. Boucard, C.M.Z.S., containing an account of a collection of Birds made in Yucatan by Mr. Gaumer. — P. L. Selater, Secretary.

2. Linnean Society of New South Wales.

May 30th, 1883. — The following (zoological) Papers were read.

1) Notes on a lower jaw of *Palorchestes Azael*. By Charles W. De Vis, B.A. — A fine specimen of the right ramus of the lower jaw of a young *Palorchestes Azael*, now in the Brisbane Museum was fully described in this paper. Reference was made to Prof. Owen's account of an adult jaw of the same species (Foss. Mamm. Aust. Pl. CVI); and the relations of *Palorchestes* to *Sthenurus*, *Macropus*, *Protemnodon* etc., discussed as fully as the evidence allowed. The author regards it as a true saltigrade of the Macropod type, closely allied in many respects to *Sthenurus*, though with a pre-molar of a quite distinct character. — 2) Synonymy of Australian and Polynesian Land and Marine Mollusca. By John Brazier, C.M.Z.S., etc. In this paper the author traced the synonymy of *Patella aculeata* Reeve; *Natica Incei* Phil., and some others, besides rectifying the identification of *Lucina dentata* Jay, which has by most authors been confounded with *L. divaricata* Linn. — 3) On some Mesozoic Fossils, from Central Australia. By the Rev. J. E. Tenison-Woods, F.G.S., etc. The author describes the nature of the deposit from qualitative analysis and microscopic examination; noticing the occurrence of various fossils too imperfect for specific identification. The author describes also the two new species, *Trigonia mesembria*, a clearly cretaceous form of the section »Glabrae«, and *Pecten psila*, which

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