

perusal we can look back through 'the corridors of time' and admire the perspective with everything in due proportion.

I regard this monograph as the greatest work on vulcanology ever written. Scrope's work on the volcanoes of central France was indeed a great one—almost an epoch-making one in its day. Nor is its force or usefulness yet spent. For it may be still read with great profit and instruction. But it was much more limited in its categories and discoursed upon the volcanoes of a single period. The work before us deals with vulcanism in all its aspects and with volcanoes of all time, and embraces a vast accumulation of knowledge, of which the world in Scrope's time knew little or nothing.

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Catalogus Mammalium tam viventium quam fossilium. By DR. E. L. TROUESSART. Berlin, R. Friedländer & Sohn. January, 1897. 2d ed., fascic. I., Primates, Prosimiæ, Chiroptera, Insectivora. 8°, pp. 218.

The appearance of the first part of the new edition of Trouessart's 'Catalogue of Mammals, Living and Fossil,' will be welcomed by all students of mammals, for such compilations, in spite of their inherent imperfections, are a great practical convenience.

The present part contains 265 genera and 1,294 species, which numbers, contrasted with those of the first edition (1878-81), show a falling-off of 104 genera and an increase of 200 species. The decrease in genera seems to be due in the main to different limits assigned to the orders, chiefly from the shifting of fossil genera.

The work is apparently brought down to the end of 1896, as it includes *Nesopithecus* Forsyth Major (published in October, 1896) and recent species described by Thomas. For fossil forms Rogers's 'Verzeichniss' and Lydekker's 'Geographical History of Mammals' have been consulted. Five new generic and subgeneric names are proposed, as follows:

p. 17. *Rhinostictus*, based on Selater's *Cercopithecus rhinosticti* 1893.

p. 19. *Erythrocebus*, based on Selater's *C. erythronoti*.

p. 22. *Otopithecus*, based on Selater's *C. auriculati*.

p. 68. *Prosinopa* for *Sinopa eximia*.

p. 204. *Scaptogale* for *Echinogale* Pomel 1848, preoccupied.

The usual sequence of forms is reversed, the Catalogue opening with the genus *Homo*, which, by the way, is given independent ordinal value ('Ordo I. Bimana') in accordance with the antiquated Cuvierian system. *Pithecanthropus* is recognized as a valid genus—the highest anthropoid—and is the first genus given under Primates. The Lemurs are raised to ordinal rank. The classification adopted is in the main that of Flower and Lydekker (except that it begins at the wrong end), but we regret to see that Lydekker's excellent division of the old order Edentata into *Edentata* (Armadillos, Anteaters and Sloths) and *Effodientia* (Pangolins and Aard-varks) is not followed.

The matter is so arranged that the specific names, references and synonymy form a broad column on the left-hand side of the page, while the geographic distribution occupies a narrower column on the right. Unfortunately, the type localities are not given at all. The specific names are numbered consecutively and are printed in black-face type; the subspecific names are not numbered and are in italics. 'Varieties' are preceded by 'Var.' but the author neglects to state how he imagines a 'variety' to differ from a subspecies. Synonyms are indistinguishable from the recognized subspecies, except that they lack the letter and dash [a.—] which precede the former—a hardly sufficient distinction.

By this method of treatment the distinction between species and subspecies is greatly exaggerated—a common error among authors whose knowledge of the forms treated is derived mainly from books rather than from specimens. Whether the describer of a new form accords it specific or subspecific rank depends, according to present usage, on his belief as to the existence or non-existence of intergrades connecting it with other forms, and his views on this subject are pretty sure to vary with the material at hand and the time spent in its study, and sometimes with his mood and the particular day his manuscript goes to press. Hence it is not surprising that an author often changes his attitude with respect to the status

of a particular form, treating it as a subspecies in one paper and a full species in the next. In the case of the Texas mole described as a subspecies by Dr. J. A. Allen in 1891 and raised to specific rank by the same author in 1893, Dr. Trouessart adopts a curious course. He gives it as a full species with 1893 as the date, and then in synonymy gives the subspecific form in which it was originally described, with 1891 as the date, showing that he was aware of the correct date. Of course, the species should date from 1891—the year in which the animal was named—for the date on which an author happens to change his mind as to the rank of a particular form has nothing to do with the date of the name. If this case represents Dr. Trouessart's views in this matter the inference is that he, like some botanists of the old school, is a worshipper of the 'combination.' He certainly agrees with these botanists in spelling personal and some other specific names with a capital initial letter—in this respect again departing from the best usage among zoologists.

Sections of genera and forms of species of earlier authors are sometimes given formal subgeneric and subspecific names, and names so given are credited to the early author instead of to himself. Thus the section 'Cercopithecini Rhinosticti' of Sclater is made the subgenus '*Rhinostictus* Sclater,' and Dr. Harrison Allen's 'Var. (b) Northern form of *Vespertilio gryphus*' is made 'Var. *septentrionalis* H. Allen.'

I am indebted to Dr. T. S. Palmer for calling my attention to Dr. Trouessart's extraordinary rule for the treatment of preoccupied names. If he finds such names preoccupied among mammals he promptly renames them (as *Scaptogale* nob. for *Echinogale* Pomel), but if they are preoccupied in other branches of the animal kingdom he lets them stand. Thus the generic names *Tylostoma* (p. 155), *Schizostoma* (154), *Macrotus* (152), *Mystacina* (149), *Furia* (135), *Vesperus* (106), *Megaloglossus* (98) and many others are retained, notwithstanding the fact that all are preoccupied and replaced by other names now in more or less common use. A few of the dates given for genera are erroneous. For instance, *Leuconoe* Boie '1825' should be 1830, and *Dendrogale* Gray '1843' should be

1848. *Prototalpa* is evidently an amended form of *Protalpa* and as such should date from *Prototalpa* Roger 1887 instead of *Protalpa* Filhol 1877.

Since the appearance of the first edition of Dr. Trouessart's Catalogue (1878-85) no attempt has been made to collect in one work the names of all the mammals of the world; and since all fossil as well as living species are included, the immensity of the task is apparent. Most authors shrink from such an undertaking, not only on account of its magnitude, but also on account of the extreme difficulty, not to say impossibility, of determining the status of described forms in groups that have not been recently revised. Nevertheless the work is of such great practical utility that for years to come every student of living or fossil mammals must keep a copy at his elbow and will owe its author a debt of gratitude. Dr. Trouessart is evidently a very rapid worker; we wish him health and freedom from interruptions, so that his great undertaking may be speedily completed.

C. H. M.

SOCIETIES AND ACADEMIES.

THE 96TH REGULAR MEETING OF THE CHEMICAL SOCIETY OF WASHINGTON.

THE following program was presented:

H. N. Stokes: 'The Chloronitrides of Phosphorus.' P. Fireman: 'The Ripening of Cheese and the Rôle which Micro-organisms Play in the Process.' E. A. de Schweinitz and Marion Dorset: 'The Product of the Tuberculosis Bacillus.' H. W. Wiley and W. H. Krug: 'The Standard Methods of Starch Determination.' W. H. Krug and J. E. Blomén: 'The Commercial Preparation of Nitro-naphthalene.' F. K. Cameron: 'The Replacement of Chlorine by Sulphur in Alkaline Chlorides.' Wirt Tassin: 'A New Mineral.'

Dr. Stokes showed that the only members of the phosphorus Chloronitrides series $(\text{PNCl}_2)_n$, hitherto known are $(\text{PNCl}_2)_3$ (Liebig) and $(\text{PNCl}_2)_4$ (Stokes). The series is now extended to include $(\text{PNCl}_2)_5$, $(\text{PNCl}_2)_6$ and $(\text{PNCl}_2)_7$, as well as a mixture of higher polymers, not yet isolated, and terminating with a rubber-like polymer of high molecular weight. The substances are prepared by heating equimolecular weights of phosphorus pentachloride