

of swallows, of which the "anatomy and general structure" are very well known. In that paper he will also see that I have attempted to compare the anatomy of all our swallows, with the structure of the American swifts, and with *Ampelis*, and a great many other birds. This paper of over one hundred pages, and numerous plates, is not found in Dr. Sharpe's works upon the life-history and structure of swallows find no place "Literature" of the *Hirundinide*. Numerous other important works upon the life-history and structure of swallows find no place in Dr. Sharpe's bibliography of this group. In this connection, then, it may be said that our author distinguishes but *twelve* genera of swallows in the world's avifauna, and of these I have carefully compared, illustrated and published full accounts of the anatomy of no less than *six* genera, or in other words fifty per cent. of those known at present to science. And, as *Stelgidopteryx* was included among these, I very much question that any very marked anatomical differences will be found to exist among the unexamined types.

Further, as has been the case with not a few other anatomists, I have treated the subject of the systematic position of the swallows in numerous places, but more particularly in my "Contributions to the Comparative Osteology of the Families of North American Passeres," in which the skeletons of all the passerine birds in the United States were, in a comparative way, passed in review, the swallows with the rest. This is another formal work dealing with the *Hirundinide*, overlooked by our bibliographer of this family of birds.

R. W. SHUFELDT.
2508 University Place, Washington, U.S.A., June 11.

Rotifers in Lake Bassenthwaite.

It may be of some interest to readers of NATURE to call attention to the fact that during the warm days of June 16-18, the beautiful Rotifer *Asplanchna priodonta* was to be found in the surface waters of Lake Bassenthwaite, Cumberland, in very great abundance. After dragging a small tow-net through the water from a row-boat for twenty minutes, the water collected in the bottle attached to the end of the net was perfectly turbid with the multitude of these animals, interfering very materially with the observation of the other constituents of the plankton. Observations taken by Mr. Ashworth in different parts of the lake in the early morning, mid-day and the evening, proved that they were not present merely in a localised cloud, but distributed in immense numbers all over the lake, from the surface to a depth of ten feet or more.

The observation is of interest, as the "Lakes" are not given in the great work on Rotifers, by Hudson and Gosse, as a locality for this genus, nor is there mention made of its occurrence in such great numbers. Perhaps some of your readers may be able to inform me if this phenomenon has previously been recorded in England.

SYDNEY J. HICKSON.
The Owens College, Manchester.

Lion-Tiger Hybrid.

SOME of the readers of NATURE who have the opportunity of visiting the exhibition at Earl's Court may be interested to know that one of the members of the "Happy Family" now on show there is evidently a hybrid between a lion and a tiger. The animal appears to be about two years old. By artificial light the ground colour closely resembles that of a lion, being tawny rather than reddish yellow; but the tiger-stripes, though faint, are quite visible, especially on the tail. Such stripes might perhaps be mistaken for unusually strong cub-markings of the lion retained for an unusual length of time. But apart from the stripes, the tiger-strain comes out strongly in the blackness of the corners of the mouth, the hairs of the lips in this place being jet black in the tiger, white in the lion.

R. I. POCOCK.

Natural History Museum, June 22.

Transference of Heat in Cooled Metal.

J'AI l'honneur de vous envoyer pour votre si intéressant journal, une remarque qui pourra intéresser peut-être quelques lecteurs de NATURE.

Il s'agit d'un phénomène certainement bien connu et qui n'a peut-être pas attiré l'attention des physiciens, comme il semble le mériter. Prenons dans la main l'extrémité d'une barre de métal et chauffons l'autre extrémité aussi fortement que possible, mais pourtant de manière à pouvoir tenir la barre sans se brûler par la première extrémité. Cela étant, refroidissons brusquement l'extrémité chauffée, soit en la plongeant dans l'eau, soit au moyen d'un jet d'eau. Nous constatons alors que

la température de la partie non chauffée monte et que nous sommes obligés de lâcher la barre, si nous ne voulons pas nous brûler. C'est ce que savent très bien, tous ceux qui ont travaillé à la forge ou qui ont fait des soudures de petites pièces métalliques tenues à la main. Les ouvriers disent que la chaleur est repoussée par le froid vers la partie non chauffée. Le phénomène a-t-il été étudié scientifiquement et connaît-on sa cause?

HENRY BOURGET.

Astronome adjoint à l'observatoire de Toulouse, juin 14.

Parker and Haswell's "Text-book of Zoology."

IN reply to Prof. Ray Lankester's references to me in his review of Parker and Haswell's "Text-book of Zoology" in this journal for May 12th, I should like to state as follows:— (1) That I had nothing to do with correcting the "final revise" of this book. (2) That the new English edition of Prof. Wiedersheim's "Comparative Anatomy of Vertebrates" is not a translation, but an "adaptation." (3) That the assertion with regard to the ossification of parts of the skeleton in Elasmobranchs in the latter work is not the same as that to which Prof. Lankester objects in the "Zoology," whether the latter be right or wrong. (4) That Götte in 1878 distinctly stated that true bone is undeniably present in the vertebral centra of several Elasmobranchs the histology of which he describes, and that all kinds of intermediate stages between calcified cartilage and true bone occur in these centra. (5) That in the fourth edition of Marshall and Hurst's "Practical Zoology" true bone is said to occur in the centra of *Scyllium*, and that this statement does not appear in previous editions of the book. (6) That in the fourth German edition of Wiedersheim's "Grundriss der vergleichenden Anatomie," which was published a week or two ago, the centra of Elasmobranchs are described as being "kalkknorpelige resp. knöcherner."

W. N. PARKER.

SOME RESULTS OF MY RESEARCHES ON OCEANOGRAPHY.

BY ALBERT, PRINCE OF MONACO.

THE devotion that has been quite lately given to the new science called "oceanography," has decided me to dedicate some of the strongest efforts of my life to its advancement. I set about my work in 1885 with a small sailing schooner of 200 tons, the *Hirondelle*, and I

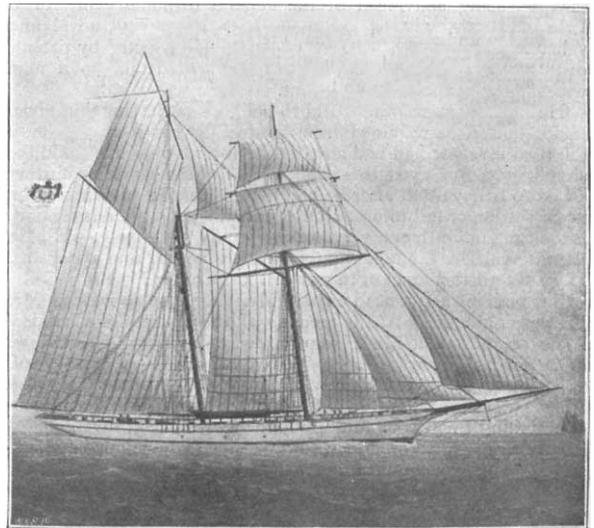


FIG. 1.—The *Hirondelle*.

explored the Atlantic as far as the coast of Newfoundland, and as deep as 1600 fathoms, without any power greater than the arms of my fourteen sailors. Later on I built a steam vessel of 560 tons, better fitted for such rough work; this was the first *Princess Alice*. Now I