

a chief settlement in Ukawendi, and the objective point of Mr. Stanley's return-route from the lake with Livingstone is not to be found. The spellings of map and book are frequently at variance.

Two chapters of geographical and ethnological remarks may have some value to the student, but do not appear to add much to the exhaustive descriptions of Burton in his "Lake Regions."

Mr. Stanley gives very minute and apparently accurate descriptions of the various fishes of Tanganyika, and these are accompanied by a page of elaborate drawings. It is unfortunate, however, that some of the fishes to which the same names are applied by Burton and Stanley do not agree in their dimensions; thus, the *Mvoro*, according to Burton, is "a long bony variety, in shape like a large mackerel;" whilst Stanley's *Mvuro* is a "thick fleshy fish, 18 inches long and 15½ inches round the body."

The excellent chapter on the organisation of the expedition, in which Mr. Stanley gives to future explorers the benefit of his anxious study of the requirements of the expedition at starting, the native currency, quantities of cloth, beads, and wire necessary for the journey, the hire of native porters, and such like, deserves the highest commendation; and the truth of his remark that "however stay-at-home people may regard the merits of his book, the greatest praise and the greatest thanks will be bestowed upon it by travellers who may succeed me in East Africa" is already on the point of being verified.

#### OUR BOOK SHELF

*Nachträge zu der Schrift über Inschriften und Zeichen in lebenden Bäumen, sowie über Maserbildung.* Von Prof. H. K. Göppert. (Breslau: E. Morgenstern.)

PROF. GÖPPERT published in 1869 in the *Fahrbuch des Schlesischen Forstvereins* some observations on the singular inscriptions and other marks found within the stems of living trees, to which the present pamphlet is an appendix. The original tract was illustrated by four lithographic plates, and in this publication we find two more, illustrating the mode in which injuries to the wood become entirely covered over and concealed by the subsequent formation of cambium and growth of bark. The visitor to the British Museum will observe some very curious instances of this phenomenon in the botanical department, which possess the additional interest that the exact period is known when the inscriptions were made, and consequently the age of the subsequent overgrowth can be determined.

*Des Préparations Microscopiques Tirées du Règne Végétal, et des différents procédés à employer pour en assurer la conservation.* Par Johannes Grönland, Maxime Cornu, et Gabriel Rivet. (Paris: F. Savy. London: Williams and Norgate.)

OF the 75 pages of which this book consists, only the last 25 properly relate to the subject which is indicated by the title; all the rest are occupied by descriptions, of a very detailed and apparently accurate kind, of apparatus and various accessories to microscopic work, such as all but the most inexperienced are necessarily perfectly familiar with. A classification and account of the various kinds of turntables fills 8 pages at the beginning; diamonds and scalpels are afterwards treated of, with the method of sharpening the latter. A simple plan of mounting needles for dissection, which consists in inserting their blunt ends into the pith cavity of pieces of fresh twigs cut of the proper lengths, and then allowed to dry,

and consequently shrink tightly upon them, will, no doubt, be found useful. The handles, however, for crochet-needles which are sold at berlin-wool shops achieve the same end by a simple mechanical contrivance. The triangular needles, by the way, mentioned by the authors, are known in England as glovers' needles, and are kept by some instrument-makers. Microtomes are discussed very minutely: they are, no doubt, very useful; but excellent sections are habitually made by those who use no contrivance of any kind. Imbedding in stearine is recommended in the case of Rivet's most ingenious section cutter; but when this is done it will be found that, with a little practice, the instrument can be quite dispensed with. It will hardly be worth while, therefore, for any one who wishes seriously to work at vegetable histology to expend 28 fr. upon it. A good hint is to coat the object to be cut with a thick solution of gum-arabic, which is to be allowed to quite dry before putting it into the melted stearine. By this expedient, when the section is thrown into water as soon as cut, the stearine is said to detach itself, and gives no further trouble. The manufacture of a slide and covering glass (pronounced *slide* and *cover*) requires an explanation of 16 pages. It is, perhaps, a doubtful compliment to find only the mechanical side of English microscopy getting any recognition. It may possibly be all we deserve; still, no serious worker in England would waste his time in carrying out the directions given here for cutting, trimming, and polishing the edges of glass slips, which can be so easily purchased ready-made. Directions for making preservative solutions form the last chapter, and these are probably of some value. A medium prepared by adding 4 to 5 parts (by weight) of glacial acetic acid to 100 parts of distilled water, with which 2 parts of chloroform have been agitated for some time, is stated to preserve the endochrome of minute algæ without contraction, and to have the enormous merit, when vegetable tissues are worked with, of absorbing bubbles of air. Another liquid, composed of 75 parts of water saturated with camphor, an equal quantity of distilled water, and 1 part of glacial acetic acid, is recommended in the warmest terms for the preservation of fresh water algæ. A great deal still remains to be done in the methods of vegetable histology. No one in England has probably as yet tried perosmic acid for plant tissues; and staining, which has proved so important an aid to animal histologists, never enters into the minds of the authors, even to the extent of mentioning the familiar carmine; much less the solution employed by Hanstein for colouring the cell-wall, consisting of equal parts of rosaniine (magenta) and aniline-violet (mauve) dissolved in alcohol.\* Schulz's process for demonstrating the "intercellular substance" characteristically concludes what the authors have to say. On the whole, any person wishing to practise the preparation of vegetable microscopic objects merely as a matter of business on a large scale, will find it useful to possess this book.

W. T. T. D.

#### LETTERS TO THE EDITOR

[The Editor does not hold himself responsible for opinions expressed by his correspondents. No notice is taken of anonymous communications.]

##### Ipecacuanha Cultivation at Kew

I HAVE just received No. 158 of NATURE, containing Prof. Owen's letter "On the National Herbarium." In that letter Prof. Owen quotes several sentences relating to ipecacuanha cultivation in India from my last report for the official year ending March 31, 1874, on the Calcutta Botanical Garden, with the object of substantiating an insinuation of bad cultivation at Kew. He does not, however, quote the whole of what I wrote about ipecacuanha in the report referred to, and the result is, that a

\* Bot. Zeitung, 1868, p. 708.