On Buds and Stipules. By the Right Hon. Sir John Lubbock, Bart., M.P., F.R.S., D.C.L., LL.D. With four coloured plates, and 340 figures in the text. Pp. xix + 239. (London: Kegan Paul, Trench, Trübner, and Co., Ltd., 1899.)

THE new volume of the "International Scientific Series" forms a welcome addition to those already published, and it will be read with interest by all who are drawn to a study of the natural history of plants. For although accounts of bud-protection, &c., are to be found scattered through various journals, there existed no connected story of the numberless artifices by which plants shield their winter buds before the appearance of Sir John Lubbock's book. Naturally much of its contents includes matter of common knowledge to those botanists who care for the study of the living plant, but even for them there is much which will be probably found to be novel, and at any rate well worth reading; whilst the freshness and first-hand character of the recorded observations affords a pleasure which those who are acquainted with the author's previous essays in natural history will naturally expect to enjoy from a perusal of the work. It is refreshing to observe that Sir John has not allowed himself to be trammelled too much by orthodoxy—to find that, for example, he declares for the stipular nature of the outgrowths on the petioles of the early leaves of the flowering currant. In the account of the stipules in the genus *Tropaeolum*, however, there seems to be no mention of the interesting fact that the first two leaves (following on the cotyledons) in the common "nasturtium" are stipulate, whereas these structures are absent from the later developed leaves. Indeed, the whole genus seems worth a more extended treatment from the point of view of stipulation, affording, as it does, almost all transitions from complete development to a complete arrest of stipular formation, and these facts are of especial interest in view of the stipulate character of allied forms.

The tendrils of sarsaparilla and also the ligule of grass leaves are considered, and probably with justice (at least as regards the former), as of stipular nature.

The beautiful arrangements by which buds are protected by means of developments of the axillant leaf, as in the plane, maple, *Rhus*, *Kalmia*, &c., are described and well figured; indeed, the excellence of the numerous drawings forms by no means the least welcome feature of the book. Space forbids us to do more than thus briefly indicate a few of the points contained in the volume, which is a most valuable contribution to the literature of a fascinating subject. J. B. F.

The Philippines and Round About. By Major G. J. Younghusband. Pp. xiv + 230. (London: Macmillan and Co., Ltd., 1899.)

IN this amusing and well-written book the author gives a very good description of the towns of Iloilo and Manila. The volume is the result of a short visit made soon after the Spanish-American war, of which we get an excellent account. The life and customs of the inhabitants of the Philippines are well described, and the reader cannot fail to be surprised at the slow progress civilisation has made in those parts. This fault is due, without doubt, to the bad condition of the Government. The only outcome of centuries of authority is an absolute want of national discipline. The Filipinos, far from being down-trodden by all the oppression and cruelty they have endured, are lazy and insolent; but, perhaps, this is not altogether surprising seeing that no wholesome authority has been used.

The author has been more interested in incidents of travel than in the natural history of his surroundings. There seems to be little domestic comfort in hotels or houses, and we, who realise so well the value of scientific appliances, cannot fail to be forcibly struck with the descriptions of the primitive state of the sanitary arrangements of the towns.

The book is a valuable addition to works of travel, and will be found a useful guide when visiting the Philippines and their neighbourhood, for good descriptions of life in Java and in the town of Saigon are also given.

The Slide Valve Simply Explained. By W. J. Tennant, A.M.I.M.E. (London: Dawbarn and Ward, Ltd.)

THIS little pamphlet of sixty-five pages, forming volume No. 2 of the "Model Engineer Series," was originally intended to help the author's railway students towards the attainment of clear general notions upon the subject of the slide valve. The author conceived the idea of using on a base-board a rotary disc to represent a crank-shaft, together with the idea of obtaining concentric circular diagrams of results, by using a crank-arm marked on the disc as an index-finger, and recording on the base-board the beginnings and ends of the arcs swept out by the crank in the various distribution-periods.

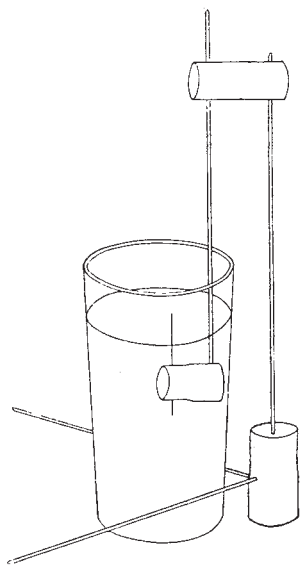
For students with little or no geometrical knowledge the book should be most useful. We think, however, that a student's time would be better employed in acquiring a sufficient amount of geometry to understand the Zeuner diagram, by aid of which the action of the slide valve can be represented more simply, quickly, and conveniently than by the author's disc diagrams. A. S.

LETTERS TO THE EDITOR.

[*The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts intended for this or any other part of* NATURE. *No notice is taken of anonymous communications.*]

Expansion of Solids by Heat.

THE following simple apparatus for showing the expansion of metals by heat may interest your readers. A cork rests on the table and is kept steady by two horizontal knitting-needles fixed into it. A third knitting-needle fixed in the cork stands in an upright position, and carries a second cork at its top. Another knitting-needle passes through this cork and projects vertically downwards into a glass of water, and carries a third cork at its lower end. This last cork carries a sewing-needle with its point projecting upwards just above the surface of the water. If one of the vertical knitting-needles is heated with a match, the point of the sewing-needle will disappear below the surface of the water; if the other is then heated, the point will appear again. These small movements can be easily seen by watching the reflection of a bright object in the surface of the water.



HORACE DARWIN.

The Orchard, Huntingdon Road, Cambridge, June 3.

Bessel Functions.

So Mr. A. B. Basset (p. 101) interdicts all such expressions as *Armstrong guns*, *Whitworth lathes*, *Martini rifles*, *Boxer cartridges*, *Whitehead torpedoes*, *Corliss engines*, *Siemens steel*, *Thomson galvanometers*, *Peltier effect*, *Röntgen rays*, hundreds of which are in common use among engineers, physicists, and

mathematicians, to say nothing of the educated general public! His task is only comparable with the historic one which Mrs. Partington set herself with respect to the Atlantic.

Bangor, June 7. A. GRAY.

Larvæ from the Head of an Antelope.

IN preserving the head of an old ♂ Hartebeeste (*A. cokei*), shot on March 31, I took from the nostrils a few hours after death some twenty large larvæ, which I am now forwarding you for identification.

On April 19 I found similar larvæ in the nostrils of an old ♀ Wildebeeste (*C. taurina*); but I think their occurrence in the heads of antelopes in this part of Africa must be comparatively rare; as, though I have shot and preserved the heads of quite a number—including many Hartebeeste—I have not come across them in any other instance. I may add, no appreciable emaciation was shown by the animals from whose heads the larvæ were taken. RICHARD CRAWSHAY.

Kiu, Uganda Railway, British East Africa, April 29.

THESE larvæ are those of a fly of the family Oestridæ, and their structure, as well as their habits, shows them to be referable to the genus *Oestrus*, and to be allied to the well-known "Sheep-bot fly," or "Sheep-nostril fly" (*Oestrus ovis*).

Brauer in his "Monographie der Oestriden" (Vienna, 1863) mentions such larvæ as having been found in three species of antelope, and describes two species of fly (*O. variolosus*, Löw., and *O. clarkii*, Shuck.) from South Africa, both probably parasitic on antelopes.

Probably a search through the scattered literature since Brauer wrote would bring to light the record of other species of *Oestrus* with similar habits; but, unless the flies were bred from the larvæ, which would not be very difficult, the species concerned could not be identified.

WALTER F. H. BLANDFORD.

48 Wimpole Street, London, June 8.

Walrus.

FERDINANDO VERBESTI (1630–1688), in his work in Chinese, "Kwan-yu-wai-ki" (Brit. Mus. copy, 15,297 *a*, 6, fol. 10, *a*), *sub.* "Marine Animals," relates thus: "The *Loh-sze-ma* is about 40 feet long, with short legs, and staying at the bottom of sea comes to the surface very seldom. Its skin is so hard that even swords are unable to pierce it. It has on its forehead horns resembling hooks, with which it hangs itself on a rock, thus sleeping a whole day without slightest awaking." With all deference to Prof. G. Schlegel, who takes the animal here described for the Narwhal (*Toung Pao*, October 1894, p. 370), I will bolden myself for truth's sake to state that the walrus is meant herein, *Loh-sze-ma* being only a Chinese rendering of *Rosmar*, the Norwegian name of the walrus. The main parts of this description agree well with the description given by Olaus Magnus ("Historia de Gentibus Septentrionalibus," Rome, 1555, p. 757), but not exactly—*e.g.*, the latter author indicates the size of the animal by the words, "maximos ac grandis pisces elephantis magnitudine"; while the former gives it more precisely, though much more exaggerated.[1] Can you or any of your readers oblige me by telling from what very source Verbesti derived his description?

Magnus speaks of the sleeping of the walrus hanging itself on rock with its tusks to be often so sound as to expose its life to danger. Similar story is told in Japan of the sun-fish (*Orthagoriscus mola*), which is said to be floating asleep while its flesh and entrail are being removed (Kaibara, "Yamato Honzô," 1708, book xiii., fol. 43 *b*). KUMAGUSU MINAKATA.

7 Effie Road, Walham Green, S.W., June 5.

Strawberry Cure for Gout.

IN connection with the letter of "F. G." in NATURE of June 8 (p. 125), on the strawberry cure of gout, I may mention that last year, when strawberries were so plentiful in England, a lady residing in Kent, who had formerly spent several years in Ceylon, where she had suffered from the wasting and often fatal complaint known as "Ceylon sore mouth" (the chief symptom of which is ulceration of the mucous membrane of the digestive organs), having had a return of the malady, and being unwilling to go abroad to undergo the "grape cure," conceived the happy idea to try strawberries instead, confining her diet to several pounds of these a day with plenty of milk. The remedy was so effectual that after a few weeks she was entirely cured of her malady, and had grown stout and well again.

5 Bedford Place, Croydon. DONALD FERGUSON.

[1] Gesner says: "Alium esse puto qui *Rusvaal* nominatur, quinquaginta passuum longitudine. . . ." ("Historia Animalum," lib. IV., *sub.* "De Rosmaro").

THE FRESH-WATER PEARLS OF AMERICA.

THE production of pearls by numerous species belonging to the fresh-water bivalve family *Unionidae* has been a matter of common knowledge from time immemorial. Such pearl-bearing mussels occur in the Tay, Isla, and several others of the rivers of the British islands, as well as in many of those of the continent, Mesopotamia, China, and North and South America. As a rule, however, such fresh-water pearls, in Europe at least, are inferior in lustre, and consequently in value, to those obtained from the pearl-oyster; and in those British rivers which produce the pearl-bearing species of *Unio*, it is stated that on the average one pearl is found in every hundred shells, and that only one pearl out of a hundred is fairly clear. During the eighteenth century, however, a considerable number of Irish pearls, ranging in value between 4*l.* and 10*l.*, were obtained, while one specimen, when mounted, realised 80*l.* In Scotland, pearls worth from 3*l.* to 4*l.* each are not unfrequently found, and it is stated that as much as 100*l.* has been paid for an unusually fine example. According to Dr. P. L. Simmonds, between the years 1761 and 1764 ten thousand pounds' worth of Scotch pearls were sent to London, while in the corresponding decade of the present century the amount was considerably more than double that value. During the dry season of 1862, when the lowness of the streams rendered the fishing unusually favourable, more pearls were collected than in any previous year; and the average price consequently fell to fifty shillings, or less. Twenty years ago, when from 5*l.* to 20*l.* was obtained for fine specimens, the general price was, however, much higher; and one Scotch pearl, for which forty guineas was given, is the property of the Queen.

British pearls were well known to the Romans, and it is probable that those from continental rivers were in demand at an equally early date. With the opening-up of the American continent by the Spanish explorers, the world was, however, flooded with a totally new supply of pearls, which there is good reason to believe were also of fresh-water origin. Wonderful are the accounts of the pearls found in the possession of the natives during the De Sota expedition from Florida to the Mississippi in 1540; and three centuries later Messrs. Squier and Davis disinterred vast quantities of damaged pearls from the ancient mounds of Ohio. So great was the number of pearls brought to light by these and other explorers, that it was considered improbable they could have been the products of the fresh-water unios of the country, and they were consequently believed to have been obtained from the pearl-oysters of the Pacific. In later years, however, many naturalists of repute were inclined to doubt the truth of this suggestion; and in an important and interesting memoir on the "Fresh-Water Pearls and Pearl-Fisheries of the United States," recently issued by the U.S. Fishery Commission, the author, Mr. G. F. Kunz, sums up the question as follows: "Notwithstanding the intercourse existing between remote Indian tribes, as shown by many authorities, and the fact that Pacific coast shells have been carried to Arizona, and that clam-shells have been found in Zuñi cities by Lieut. Cushing, it is likely that these pearls came, not from the pearl-oysters of the Pacific coast, but from the marine shells of the Atlantic coast and the fresh-water shells of the eastern part of the continent. It is very probable that the Indians opened the shells to secure the animal as an article of food; that the shells of some