

THURSDAY, MARCH 23, 1871

BOTANICAL MUSEUMS

THE keeping up at the public expense of two great rival National Botanical Establishments, the one in London the other at Kew, in a state of continual competition with, instead of aid to, each other, whilst a third independent one, also national, may occasionally come into collision with one of them, seems to be a waste of public money, without any advantage to science or to the public, and attended with many inconveniences.

At the same time two great Botanical Museums and Herbaria, the one in connection with the Natural History Museum in London, the other with the Botanical Gardens at Kew, working in harmony with each other, but for different purposes, and separated by a clear line of demarcation from the Economic Museums of South Kensington, would always be productive of great benefit to science and gratification to the public.

The main purposes of a Botanical Museum and Herbarium may be said to be threefold—the Study of plants, their Comparison, and their Exhibition; the first purely scientific; the second sometimes scientific, sometimes popular, the third chiefly popular. For the first, Kew affords incomparable advantages, the second and third would probably be best promoted in town, provided always that the two establishments work in perfect harmony, with unity of plan, both in general arrangements and in matters of detail.

1. For the close Study of plants,—the only sound foundation upon which the science of Botany can be usefully established,—for their accurate determination and practical classification, the requisites are: that the herbarium should be as rich as possible not only as to genera and species, but as to variations of all sorts and repetitions of the same form from different localities and stations; that the herbarium should be a single one, the geographical arrangement being kept in subservience to the scientific classification, and without any detached smaller herbaria, except such definite historical ones as only require occasional reference like the books of a library; that there should be good accommodation for the sorting of unnamed collections and fresh arrivals, ample means for the dissection and examination of specimens not only by the staff of the establishment, but also by scientific botanists in general, who, under special regulations, are allowed to work in the herbarium, and store-rooms for duplicates required for exchanges, &c.; that there should be in the same suite of rooms as the herbarium a botanical library, as complete as possible, and a series of drawings of plants, also as complete as possible; that the herbarium should be in close connection with the national collection of living plants; and that it should be under the keepership of a resident scientific botanist, with the requisite staff of scientific assistants. All these essentials are at present afforded by the Herbarium at Kew, in a degree far beyond what can be met with in any other establishment at home or abroad.

2. The Comparison of plants—their practical and rapid determination without dissection, or the obtaining a general idea of natural groups from the Order down to

the Species, as required by the general naturalist, by the follower of sciences in immediate connection with botany, especially the palæontologist, or by the mere amateur—demands a very different herbarium and museum from that of the working establishment. It should consist of accurately named select specimens, representative of as many species or well-marked varieties as possible, without duplicates in the same collection. It might be advantageously divided into two separate collections, one a general typical one, the other geographical. Separate collections also of leaves and of fruits, all accurately named, and so arranged as to enable them to be rapidly glanced over, would be most useful to the palæontologist. Such a museum would require no space for the sorting and determining of unnamed collections, nor for the storing of duplicates, and no provision for the dissection of specimens except for the personal use of the keeper and his assistants, being supplied only with such tables or other appliances for consultation as are usually required in a library. Its library should be extensive, but select rather than complete, and should include various palæontological and other works on kindred sciences, not required in the working herbarium. It should be in near connection with the National Museums for kindred sciences, especially with other palæontological collections. The keeper should be a scientific geologist, as well as botanist, and would require probably but one scientific assistant.

3. The Exhibition of plants, or rather of botanical specimens, is for the purpose of exciting the interest and gratifying the curiosity of the general public, and for this a herbarium, strictly so-called, is of no use—the public would never look beyond the outside of the cases. It requires the display in glass cases of such selected specimens of plants or their parts, accompanied by explanatory notes and diagrams, as may give at a cursory glance some idea of the characteristic features of the principal groups of plants; and to these might be usefully added a few specimens remarkable only for their beauty or singularity, for the purpose of attracting the eye, and riveting the attention of the observers. As these specimens, when once placed, require no further handling, and no care beyond the inspection of an ordinary assistant, and as the objects of visitors to such a Museum would be much promoted by a ready connection with the public Museums in other branches of natural history, it would seem highly advantageous that it should be attached to the herbarium for comparison, and form part of the London Botanical Museum, in close proximity to the National Museums of Zoology and Geology.

We have now no Museum in any degree adequate to these two purposes of Comparison and Exhibition, but were the two national collections of the British Museum and Kew combined, all unnamed plants, duplicates, and specimens of interest only to the scientific botanist, removed to Kew, and in return, from the immense mass of materials there accumulated, the London herbaria completed by accurately-named representative specimens, there would result collections richer in species and far more useful than any actual Continental ones; and as science advances and materials increase, these collections would be constantly kept up to the mark by named specimens from Kew, whilst their scientific arrangement and application to use could not be under a direction better

qualified than that of the recently-appointed keeper of the botanical department of the British Museum.

In this London Botanical Museum would be also appropriately placed various pre-Linnean and other botanical collections, having only a historical or other adventitious interest, but there would be little use in attempting there anything corresponding with the Museum of Economic Botany, which has acquired so much importance, and is so well placed at Kew. That could only come into competition with the economic collections at South Kensington, but all prejudicial collision between the two is clearly avoided, and each one will increase its own practical utility by strictly adhering to the rule that at Kew the products are arranged according to the plants they are derived from; at South Kensington, according to the uses they are put to.

POPULAR ORNITHOLOGY

Cassell's Book of Birds. Translated and adapted from the text of the eminent German Naturalist, Dr. Brehm, by Thomas Rymer Jones, F.R.S., Professor of Natural History and Comparative Anatomy in King's College, London. 400 woodcuts and coloured plates. Parts I.—XIV. (London: Cassell, Petter, and Galpin.)

PERSONS wishing to be misinformed on the subject of Ornithology should obtain and read the "Book of Birds" now in course of publication by Messrs. Cassell, Petter, and Galpin, and recommended by them to "everyone who wishes to know all that is known about birds." The advertisement whence these words are quoted also tells us that the work, when completed, is to contain "upwards of 400 engravings, embracing every species of birds known to exist;" but as on a moderate computation some 12,000 species of birds have been described, it is pretty clear that to fulfil that promise each engraving should represent 30 species or thereabouts. The most cursory inspection of the portion published (and we have the fourteenth part lying before us) will show that nothing of the kind has been done, and that many groups are left without an illustration at all.

Furthermore, the work is announced as "translated and adapted from the text of the eminent German naturalist, Dr. Brehm, by Thomas Rymer Jones, F.R.S., Professor of Natural History and Comparative Anatomy in King's College, London," a collection of assertions which we take the liberty of questioning. We are aware of the recent existence of no fewer than four German naturalists of that name, all of them, we believe, entitled to the doctoral prefix. Of these four, which is the one whose labours are chosen for the exercise of Prof. Jones's industry in translation and ingenuity in adaptation? *The eminent* Dr. Brehm ought, of course, to be the answer; but then the most "eminent"—that is the best known and most prolific writer of the four—was Dr. Christian Ludwig Brehm, who, having attained great notoriety as a "splitter" of species, died at an advanced age some half-dozen years since, leaving two of his three bedoctored sons behind him. Now, Dr. Brehm, the father, among his many works certainly never published one which could be "adapted" to the form of Messrs. Cassell's "Book of Birds:" nor did Oscar Brehm, the son, who died in his father's lifetime. The question is therefore narrowed to

the works of the survivors. Of these Dr. Reinhold Brehm has contributed several ornithological papers to journals, but none of any great importance, and there is no need to accredit him with the authorship of any work at all resembling the present. It seems therefore that Dr. Alfred Brehm must be in the eyes of the English publishers and translator "the eminent Dr. Brehm." We are inclined to believe that the production we are now reviewing is his offspring, whether he deserves to be called "the eminent German naturalist" or not, and that it has not hitherto been printed, since an examination of his work, "Das Leben der Vögel," from which some of the illustrations in the present book are taken, fails to show that its text furnishes the groundwork for "Cassell's Book of Birds."

Having thus justified, as we hope, our doubts as to the "Book of Birds" originating from "the eminent Dr. Brehm," we must further express our doubts as to Prof. Jones being the translator and adaptor of it from the German of another naturalist of the same name. Here our doubts, it may be thought, do not rest upon so satisfactory a base; but the meritorious work by which Prof. Rymer Jones is best known, his "Outline of the Animal Kingdom," shows that its author is gifted in no common degree. The character of Professor Jones's volume was and is caution and accuracy, the character of the "Editor's Introduction" to the "Book of Birds" is the reverse. Here is an example. Its writer says (p. 17): "In order to render the following account of the structure of a bird's skeleton intelligible to the non-scientific reader we have delineated that of the Goose," and a reference is added to "Fig. 12," which faces these words. Now we scarcely expect that we shall be believed, but it is an undoubted fact that there is no figure of a Goose's skeleton at all, and that "Fig. 12" represents the skeleton of a bird so entirely different as a Pigeon; while so far from the inference being true that the editor has "delineated" the subject for the express purpose of enlightening his readers, we must declare that the woodcut in question is a very bad enlargement of what has been for years a stock-figure in anatomical handbooks. We do not pretend to know its origin, but we have now before us a far better copy of it in a Swedish work,* and it has been repeated in many other books. That Prof. Rymer Jones has been guilty of such a blunder, to say nothing of such a *suggestio falsi* as this, we hold to be incredible. Again we have close by another woodcut (p. 22), which we are told represents "A young chicken shortly after its escape from the egg." Now we cannot believe that such an explanation was written by Prof. Rymer Jones, for he must well know the figure to be that of a young Blackbird assuming the first or nestling plumage, as it is rightly said to be in the "Catalogue of the Physiological Series" of the Museum of the College of Surgeons, where (vol. ii. Part II. p. 312, pl. xlv. fig. 4), the original of the woodcut may be found. Those who can believe that Prof. Rymer Jones does not know the difference between a Goose's skeleton and a Pigeon's, and between a Chicken newly hatched and a Blackbird just about to leave the nest, may believe it, we unhesitatingly declare we do not.

But it might be urged that all these matters are of little

* "Grundlinier till Zoologiens Studium," af Karl Torin. (Stockholm, 1870.) 3d ed. i. p. 37.