

III. BOTANY AND ZOOLOGY.

1. *British National Museums of Natural History*.—The separation of the Natural History collections at the British Museum from the library and antiquities, seems to be inevitable at no distant period. An influential memorial, addressed by leading naturalists to the Chancellor of the Exchequer, strongly recommends this separation to be effected at the present time; and it is thought that the recommendation will be adopted. It is proposed to establish separate museums of zoology, botany, and mineralogy, and even to divide each of these into a *typical or popular*, an *economic*, and a *scientific* department, the two former open always to the public, the latter to men of science. The zoological and perhaps the mineralogical collections it is proposed to concentrate in some part of London or the immediate vicinity, probably at Kensington Gore; the botanical collection would of course go to Kew, where the national botanical garden,—brought to a high state of perfection under Sir Wm. Hooker's superintendence,—and a large museum of economic botany, most successfully established by him, already exist. There is likewise an excellent herbarium, which was some years ago presented to the establishment by Mr. Bentham. There also is the great herbarium of Sir Wm. Hooker, perhaps the largest in the world,—certainly far larger than any other ever formed in one life time, or by a private person, and the one which for the last twenty years has contributed more than any other to the advancement of the science. For almost 20 years the Hookerian herbarium—even more than the Royal Gardens—has made Kew the head-quarters of botany, rivalling the imperial establishment on the other side of the channel, and more useful as well as more freely accessible to botanists from every part of the world than the national herbaria at the British Museum. As to accessibility, indeed, no fault is to be found with the latter; the Banksian and other herbaria of historical importance could always be consulted under proper regulations. But it must be said that, with the greatest botanist of the age as their curator, these national collections for a quarter of a century have not contributed to the advancement of botany to any thing like the extent which the Hookerian herbarium, and its devoted, generous-spirited, and disinterested founder have done. How such a vast herbarium can have been collected and maintained, in perfect working order, by a private individual of very moderate means, it is not easy to conceive. Certainly it is too large and too important for science long to remain in private hands. It must in any case be acquired by the British Government; when this and the Benthamian herbarium, with adequate provision for their increase,—supplemented by the Banksian and other special collections now at the British museum (which should be kept distinct)—will form an unrivalled *scientific botanical museum*. A. G.

2. *On the Coiling of Tendrils*; by Prof. GRAY.—As much as twenty years ago, Mohl suggested that the coiling of tendrils 'resulted from an irritability excited by contact.' In 1850 he remarked that this view has had no particular approval to boast of, yet that nothing better has been put in its place. And in another paragraph of his admirable little treatise on the Vegetable Cell (contributed to Wagner's *Cyclopædia of Physiology*), he briefly says: 'In my opinion, a dull irritability exists in the

stems of twining plants and in tendrils.' In other words, he suggests that the phenomenon is of the same nature, and owns the same cause (whatever that may be) as the closing of the leaves of the Sensitive-plant at the touch, and a variety of similar movements observed in plants. The object of this note is to remark that the correctness of this view may be readily demonstrated.

For the tendrils in several common plants will coil up more or less promptly after being touched, or brought with a slight force into contact with a foreign body, and in some plants the movement of coiling is rapid enough to be directly seen by the eye; indeed, is considerably quicker than is needful for being visible. And, to complete the parallel, as the leaves of the Sensitive-plant, and the like, after closing by irritation, resume after a while their ordinary expanded position, so the tendrils, in two species of the *Cucurbitaceæ*, or Squash family, experimented upon, after coiling in consequence of a touch, will uncoil into a straight position in the course of an hour; then they will coil up at a second touch, often more quickly than before; and this may be repeated three or four times in the course of six or seven hours.

My cursory observations have been principally made upon the Bur-Cucumber (*Sicyos angulatus*). To see the movement well, full-grown and outstretched tendrils, which have not reached any support, should be selected, and a warm day; 77° Fahr. is high enough.

A tendril which was straight, except a slight hook at the tip, on being gently touched once or twice with a piece of wood on the upper side, coiled at the end into 2½–3 turns within a minute and a half. The motion began after an interval of several seconds, and fully half of the coiling was quick enough to be very distinctly seen. After a little more than an hour had elapsed, it was found to be straight again. The contact was repeated, timing the result by the second-hand of a watch. The coiling began within four seconds, and made one circle and a quarter in about four seconds. It had straightened again in an hour and five minutes (perhaps sooner, but it was then observed); and it coiled the third time on being touched rather firmly, but not so quickly as before, viz. 1½ turns in half a minute. I have indications of the same movement in the tendrils of the grape-vine; but a favorable day has not occurred for the experiment since my attention was accidentally directed to the subject. I have reason to think that the movement is caused by a contraction of the cells on the concave side of the coil, but I have not had an opportunity for making a decisive experiment.—*Extr. from Proceedings of the American Academy of Arts and Sciences*, vol. iv, p. 98, Aug. 1858.

3. *An Essay on the Tape Worms of Man*, giving a full account of their Nature, Organization, and embryonic development, the pathological symptoms they produce, and the remedies which have proved successful in modern practice, by D. F. WEINLAND, Ph.D.,—to which is added an Appendix containing a catalogue of all species of Helminths hitherto found in man. 94 pp., 8vo, illustrated with original wood cuts. Cambridge, Mass., 1858. Metcalf & Co.—Dr. Weinland is high authority on all subjects connected with Intestinal worms, and especially the species that infest man, of which 32 are now known. This pamphlet is valuable both pathologically and zoologically. Nothing in the whole range of