the female flower of a Carex is represented by "a single ovary inclosed in a loose bag, which may perhaps be the final rudiment of a tubular bell-shaped corolla like that of a hyacinth"! Surely the nature of the utricle of a Carex has been clearly enough demonstrated by the structure of the flowers of monstrous specimens and of allied genera. To complete his remarks upon the sedges he adds a footnote, in which he says: "The sedges are not in all probability a real natural family, but are a group of heterogeneous degraded lilies, containing almost all those kinds in which the reduced florets are covered by a single conspicuous glume-like bract." Now there is probably hardly any large order in the vegetable kingdom so natural as that of the Cyperaceæ, so little connected with any other, and of which the genera are so closely allied together, as is proved by the comparatively small number of genera in it, and the large number of species which many of the genera contain.

The wheat plant being a degraded lily, it becomes necessary to trace the development of the flower of the one into that of the other, which is done by considering the palea of the wheat-flower as homologous with the calyx, and the lodicules as representing the corolla, a view which has long been considered untenable.

The two essays upon the distribution of plants call for some comment. Here the author is on firmer ground, for, thanks to the researches of Forbes and Watson, we have a much clearer notion of the origin of our flora than we can have of the pedigrees of the plants themselves. At the same time we must take exception to the suggestion that the seeds of the northern Holy Grass, which Robert Dick discovered in Caithness, were introduced into New Zealand from Siberia upon the feet of a belated bird. The plant in question does not occur, as far as is known, in New Zealand. The species which does occur both in New Zealand and Europe is found throughout the temperate Antarctic zone, extending even to the Cape. Nor is this distribution, as the author states, a very rare and almost unparalleled coincidence. The fact is that there is a very considerable number of plants common to the north and south temperate regions, most of which occur in North America, and seem to have descended towards the Antarctic regions along the line of the Andes.

But, apart from improbabilities in theory, there are numerous statements which cannot fail to convey erroneous impressions of plant-physiology. What, for instance, could be more misleading than the following statement concerning Potentillas? Those "which raised their leaves highest would best survive, while those which trailed or kept closely along the ground *would soon be starved out for want of carbonic acid!*" It is not the absence of carbonic acid gas that the plant would suffer from, but from the loss of light by which it could utilise it. These statements, and many others of a similar nature, suggest that Mr. Grant Allen has confined his observations too much to the flora of the British Islands. It is utterly impossible to form any correct idea of the history of the evolution of a plant without knowing thoroughly the structure of all the plants in any way related to it, and without having, moreover, a much clearer knowledge of the effects produced by external circumstances in modifying organs than we at present possess. In the meantime dogmatic statements concerning the evolution of any given plant are in the highest degree unsatisfactory, and likely to lead to error.

The book is nicely got up, and the language is in that easy and fluent style in which Mr. Allen is so proficient, and which goes so far towards investing the driest details of science with a poetical and even romantic interest.

H. N. R.

OUR BOOK SHELF

Wonders of Plant-Life. By Sophie Bledsoe Herrick. (London: W. H. Allen and Co., 1884.)

THIS is another well-intentioned but unsuccessful attempt to deal in a popular style with some of the more sensational parts of the science of botany. Inaccuracy is again the glaring fault: thus we read on p. 4 that "vegetable cells, in the earlier stages of development, generally approximate to the sphere in form"; on p. 17 that the vessels "serve to convey air through the tissues of the plant," and "are the lungs of the plant"; and again, on p. 24, that the red and ultra-red rays are those actively concerned in the process of assimilation. Similar inaccuracy may be traced in those of the illustrations which are original; for example, the drawing of Penicillium on p. 60. The frequent production of popular treatises shows that there must be some demand for such books. It is much to be desired that some botanist who is really master of his subject would take the matter up, and write in a popular style a trustworthy account of those parts of the science of botany which are of especial interest to the general public.

Histological Notes for the Use of Medical Students. By W. Horscraft Waters, M.A. (London: Smith, Elder, and Co., 1884.)

IN the introduction to this little work of 65 pages Mr. Waters states that, in taking the class of Practical Histology at the Owens College Medical School during the summer sessions of 1882-83, it had been his custom to give each student "sheets" containing a short account of the chief points to be observed in the specimens for examination. The present work has grown out of these notes, after careful revision and additions thereto by the author. Students of histology have already numerous similar treatises placed at their disposition, describing the various methods of staining, clearing, and mounting specimens; but room will always be found for additional ones bearing on this subject, provided they are the outcome of practical experience. These notes have been carefully prepared; the directions given are clear and concise, and beginners cannot do better than carefully follow them.

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. No notice is taken of anonymous communications.*

[*The Editor urgently requests correspondents to keep their letters as short as possible. The pressure on his space is so great that it is impossible otherwise to insure the appearance even of communications containing interesting and novel facts.*]

Pile-Dwellings on Hill-tops

I OBSERVE this question to the fore in NATURE of February 21 (p. 382), and as I have lived many years among races who build various forms of pile-houses, and have often resided in them for a time, I trust you can allow me a few words on the subject. The custom seems attributed to several causes, *i.e.* to excessive moisture and as a protection against wild beasts, by Mr. Keane; to excessive rain and a wet climate, by Col. Godwin-Austen; to damp exhalations from tropical soil, by Mr. Dallas; and to the