

doctrine is put by Prof. Sachs is specially applicable to plants, in which the continuity of the germ-plasm can only be traced through the embryonic substance of the growing points.

This collection, containing what are probably the most important contributions of our time to the physiology of plants, is in itself a marvellous record of scientific activity. As Prof. Sachs is still engaged in physiological research, we may hope that a later edition of the work will contain many further invaluable additions to our knowledge.

D. H. S.

OUR BOOK SHELF.

On English Lagoons. By P. H. Emerson. (London: David Nutt, 1893.)

YET another book about the Norfolk Broads, or, as the author prefers to call them, the "English Lagoons." One can hardly credit that anything fresh could be said on this well-worn subject, but Mr. Emerson's book differs from all that have gone before in being a continuous narrative of a twelve months' sojourn on the Broads in his pleasure wherry, the *Maid of the Mist*, and presents to us a graphic picture of these waters under their winter aspect as well as under a summer sky. Much that he has written, more particularly his excellent descriptions of the peculiar scenery of this remarkable admixture of land and water in mid-winter, is highly interesting. The atmospheric effects under various conditions of storm and sunshine, by moonlight and at early dawn, display a keen artistic perception, but the incidents as a rule are trivial in the extreme in fact, and the constant use of the vernacular becomes tiring—whole chapters (e.g. Chapter xxi. of six pages) might have been well omitted.

From a naturalist's point of view the reader cannot fail to be pleased with the kindly spirit which pervades the book, the evident delight which the author took in his feathered friends, and his disgust for the wanton destruction which is too frequently committed by thoughtless visitors to these delightful retreats, but having said this we confess we are rather puzzled by Mr. Emerson's ornithology. On page 216, for instance, he mentions watching a pair of desert wheatears on Palling Sand Hills; surely he cannot have met with *Saxicola deserti* in Norfolk. Scarcely less astonishing is the mention of a blue-headed wagtail's nest, and the appearance of the white wagtail on several occasions. The present writer has known the Broads for forty years, but has never had the good fortune to meet with *Motacilla flava* or *M. alba*, both of which are excessively rare in Norfolk, and probably only occasionally appear as passing spring migrants. Many of the observations on birds are interesting, but the following passage is hardly in good taste. Speaking of Surlingham Broad, "which the late Mr. Stevenson, the local naturalist, loved," Mr. Emerson continues, "But this piece of water is to me dull and songless, but then Mr. Stevenson did not know shadows from reflections, nor, I suspect, beauties from common-places. As a naturalist, moreover, he was not to be compared to the late Mr. Booth, a true lover of birds and of outdoor life. But in Norfolk every native goose is a swan." Mr. Stevenson's reputation as an ornithologist is too well established to need any defence from my pen, but I can say without hesitation that the best general description of the Broad district ever written is to be found in the introduction to his "Birds of Norfolk," and his chapters descriptive of a summer's night and a summer's day on the very Broad which Mr. Emerson considers so uninteresting, show not only his wonderful powers of observation but his keen perception of the

beauty and poetry of nature; even so familiar a bird as the redbreast is invested with fresh interest after reading his charming chapter on this pert little friend of man.

I. S.

The Mechanics of Architecture. By E. Wyndham Tarn, M.A. (Crosby Lockwood and Son, 1892.)

THE modern architect is beginning to perceive that he has allowed the engineer to cover the ground with monstrosities because his immediate predecessors considered that any scientific knowledge would spoil the artistic faculty, regardless of the great architects of the past, Sir Christopher Wren, Leonardo da Vinci, and the designers of our cathedrals.

The theories which the author discusses, as of Pillars, Roofs, Arches, Domes, and Spires, Buttresses and Foundations, are illustrated by numerical applications to well-chosen existing examples; so that the architect will thereby acquire confidence in the formulas, and not lay himself open to disaster in consequence of a mathematical misprint.

Graphical constructions are freely employed, which recommend themselves to the draughtsman, who thinks better on his drawing-board than in symbols and formulas.

G.

LETTERS TO THE EDITOR.

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Telegony.

THIS is a term which Prof. Weismann has recently coined to designate a class of phenomena which have thus far been pretty generally accepted as of unquestionable occurrence in mammals, if not also in birds. I refer to the alleged influence of a previous sire on the progeny of a subsequent one by the same mother. The most notorious instance of this alleged fact is that of Lord Morton's Arabian chestnut mare, which had her first foal to a quagga. Subsequently she produced two colts by a black Arabian horse. These were both partially dun-coloured, and striped on the legs more plainly than the real hybrid had been. One of the colts was also striped on the neck and some other parts of the body; lastly, the mane in both resembled that of the quagga, being short, stiff, and upright. Darwin, from whom this description is taken, records an almost exactly parallel case, on the authority of Mr. James Weir. He also gives a number of references to other cases, not only in horses, but likewise in sheep, swine, dogs, &c. Within the last twelve-month another seemingly unmistakable case of the same thing took place in the Zoological Gardens, and is recorded by Mr. Tegetmeier in one of the December numbers of the *Field*. Here the first foal was a hybrid between two species of ass, and the second by a male of the same species as the mother. Not a few further apparently well-authenticated instances might be mentioned, but these are enough for present purposes. Indeed, most breeders and fanciers are so persuaded of the truth of "telegony" as to deem a pedigree animal seriously deteriorated in value if she has been covered by an inferior male, while in Darwin's opinion "there can be no doubt" as to the fact of this influence of a previous sire being occasionally exhibited in mammals, although he expresses himself as doubtful with regard to it in the case of birds.

Prof. Weismann, however, has recently challenged the facts. He has also given his explanation of them, supposing them to be facts. Therefore I will consider these two points separately.

Several years ago I undertook an experimental inquiry upon the subject with dogs, which yielded negative results. I then obtained an introduction to Mr. Everet Millais, in order to profit by his large experience and scientific interest in all matters pertaining to dog-breeding. He suggested that the question ought to be put in the journals of fanciers in this country, and also in America, for the purpose of raising discussions upon it. This was done, with the result of letting loose floods of letters to