

without hardness, and life-like. The text is interesting, and the number of food-grains described in excess of what most of us were aware existed. Prof. Church commences his work by what must have been to him a familiar task—describing the chief constituents of food, splitting up the sugars into their groups, and pointing out the differences between true nutrients and food-adjuncts. Part 2 is devoted to dietaries and rations. With Part 3 commences the peculiar merit and *raison d'être* of the work. After some remarks upon cereals generally, the reader is introduced *seriatim* to no fewer than twenty-three cereals, the only member of the group conspicuous by its absence being rye—a grain which occupies a very important place in Europe. The presumption is that it does not occur in India, but such a presumption surely presumes too much. Wheat is described as an annual grass of unknown origin, but we scarcely see why this *nescience* as to the origin of wheat should be especially set forth. Are we to infer that barley, oats, maize, rice, the millets, &c., are annual grasses of known origin? If so, would that the Professor had devoted a few lines in each case to this particular point! The origin of our food-grains is a deeply interesting subject, veiled, we are afraid, for the most part in mist, and only conjecturally outlined.

The author disclaims any special originality, and duly credits the works of Dr. Forbes Watson, and Messrs. Duthie and Fuller, as well as other authors, as sources from which he has industriously gathered information. Messrs. Duthie and Fuller's work, however, dealt but little with the chemistry or physiology of the plants they described, and they treated more exclusively of the cultivation of the various crops.

The interest of Prof. Church's book lies in the illustrations, which are super-excellent; in the analyses, many of which were made in the author's own laboratory; in fixing the nutrient-ratio and nutrient-value of so many foods; and, lastly, in the comprehensive view given of Indian cereal and other crops. The Indian local names and Sanskrit equivalents are also interesting. These are taken by our author on trust, but all or many of them also occur in Mr. Duthie's book, which would be a guarantee of their correctness.

JOHN WRIGHTSON

Tobacco a Farmer's Crop. By Philip Meadows Taylor. (London: Edward Stanford, 1886.)

THIS is a small book of seventy pages. The first half is occupied by pleasant matter relating to the history of tobacco in Europe not strictly or seriously relevant to the title. The latter half redeems the whole from the stigma of being unpractical. An interesting account is given of the despotic regulations of the "Régie des Tabacs," a Government Department which grants licenses for growing, manufacturing, and selling tobacco throughout France, and whose powers extend to the nomination of the cultivators, the variety of tobacco to be grown, the number of plants per hectare, and even the number of leaves permitted per plant, so that the unfortunate cultivator may and must give a perfectly accurate account of his yield down to a single leaf. The methods of cultivation followed in France are described plainly and apparently practically. The important question as to whether tobacco can be grown profitably in England is answered unhesitatingly in the affirmative, and a sensible scheme is propounded for bringing its culture into harmony with the Excise. The coldness exhibited by our Royal Agricultural Society towards the tobacco movement last April is strongly advertised upon. As to our climate, Mr. Taylor writes as follows:—"It is stated to be too cold, too damp, too uncertain in England to allow of the introduction of the proposed culture. I cannot conceive or allow that there can exist any sensible difference between the climate of the southern counties of England and that of Picardy

and Flanders. I do not take notice of Prussia and even Russia, where tobacco is grown. I believe that the general climate in Southern England is more genial than in the countries across the Channel, and I feel confident that in the said southern counties of England and in Ireland tobacco could be advantageously grown. I recall my former statement that the plant is only on the ground from June to September: cold winters, early frosts, and November fogs have naught to do with the question." The author does not appear to take into account the comparative coolness of the summer months in England, which has always prevented the successful growth of maize, vines, and probably tobacco also. This very readable little book, with its unstudied side-lights upon French rural life, and its pleasant style, may be recommended without any hesitation to the reading public.

JOHN WRIGHTSON

Marion's Practical Guide to Photography. (London: Marion and Co., 1886.)

HERE we have a very good book, which contains all necessary information and useful hints for those who are practising the art of photography. The whole process is gone through in a very clear and easy way. Extra chapters are given on different parts of the subject, such as photographic optics, re-touching, portraiture, &c. On p. 95 a table of exposures is added, preceded by explanations, taking into consideration all the variations of scenes and subjects which the amateur is likely to come across. The manufacturers deserve great credit for publishing a book in which the best way of using their apparatus is described; a book published under such conditions ought to be truly practical, and one would think that the manufacturer of bad apparatus would not be too anxious to teach his customers how to find it out.

Lecture Notes and Problems on Sound, Light, and Heat. By Charles Bird, B.A., F.G.S. (London: Relfe Bros., 1886.)

FOR students who are attending lectures on these subjects this book will be very useful, as it contains the chief fundamental formulæ, set out in a very clear manner, and it is very compact, capable of being put into one's pocket without inconvenience.

Bicycles and Tricycles for the Year 1886. By H. H. Griffin, London Athletic Club. (London: L. Upcott Gill, 1886.)

NOW that cycling has become so general, and consequently the cycle industry increased so largely, a book on the subject will doubtless be most welcome. We have here one which gives a *good* description, and in many cases a woodcut, of every known make, with the exception, perhaps, of one or two very new patterns which have been introduced very recently. We need not enter into the details from the scientific point of view, as they have been previously described (NATURE, vol. xxxiii. p. 132). A description of different varieties of bells, lamps, &c., is also given. Great pains seem to have been taken by the author to bring the book up to date, and to give an accurate account; each machine, as he tells us, having been examined by himself.

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.]

Extension of the Corona

IN reference to the failure of observers at the late eclipse to note any such extension of the corona as was seen in 1878, I