

in quarterly parts, the contents of each part being arranged under the following heads:—

1. Generalities and Statistics, Description of Apparatus and Machinery, Heat-production.
2. Dry Distillation of Heating and Lighting Materials, Sulphide of Carbon, Petroleum, Coal-gas, Wood-tar, Asphalte, &c.
3. Sulphur, Acids, Alkalis, Aluminium Salts, Borates, Chromates.
4. Oils and Fats, Resins, Glycerin, Volatile Oils, Lubricating Materials.
5. Sugar, Starch, Fermentation, Wine, Beer, Spirits, Vinegar.
6. Food, Meat and its Preparations, Milk and Dairy Produce, Flour and Baking.
7. Dye-stuffs, Dyeing and Calico-printing.
8. Tanning.
9. Matches and Explosives.
10. Glass, Earthenware, Cement, Plaster.
11. Metallurgy—Iron, Copper, Tin, Lead, Bismuth, Antimony, Nickel, Mercury, Silver, Gold, &c.
12. Smaller Industries—Oxalic Acid, Cellulose, Salicylic Acid, Tartaric Acid, Chloral Hydrate, Mineral Waters, Chloride of Zinc.

Detailed criticism of the immense amount of matter contained in the 900 pages of the volume is, of course, impossible. Suffice it to say that the whole has been compiled with great care; every available source of information appears to have been thoroughly ransacked; and the necessarily condensed descriptions of the several processes and products are supplemented by copious references to original papers. Lists of chemical patents taken out in Great Britain, America, France, Belgium, and Austro-Hungary, are also given at the end of each quarterly part, the whole extending to forty closely-printed pages.

In the possession of such a report of chemical industry as the one now under consideration, and of the admirable *Fabricsbericht* of Dr. Wagner, the manufacturers of Germany are certainly fortunate; and when we consider the vast extent and importance of chemical manufactures in England and America, it is matter of surprise and regret that no similar work exists in the English language. Projects for such a work have, indeed, been started in this country, but their execution appears to be a problem for the future.

Southern Stellar Objects for Small Telescopes, between the Equator and 55° South Declination, with Observations made in the Punjab. By J. E. Gore, M.R.I.A., A.I.C.E., &c. (Lodiana, 1877.)

THIS small work is divided into two sections. The first contains objects arranged according to the constellations, and chiefly selected from Sir John Herschel's Cape volume, which are within the scope of telescopes of very ordinary capacity, including double stars, clusters and nebulae, with special reference to stars which may prove to be variable. The second section contains the more original work of the author, who was provided with telescopes 3 and 3.9 inches aperture, in the Punjab, and wholly relates to southern stars possibly variable, some new and noteworthy cases being adduced.

Mr. Gore appears to have made a useful comparison of Harding's "Atlas" with the sky, so far as relates to stars found in it, which do not occur in the great catalogue from the "Histoire Céleste" of Lalande, or are underlined in the "Atlas," and it is in such cases that he has met with the most decided evidence of variability. Amongst them we may note L. 1028, a star twenty minutes due north of L. 8951, one in R.A. about 4h. 58m. for 1880, N.P.D. $111^{\circ} 14'$, apparently variable from 6m. to 9m.; L. 19,562 from 4.5m. to 7m.; L. 23,228; Oeltzen 17,670 (No. 31 in Mr. Gore's list), observed three times by Argelaender, and estimated 5, 7, and 5.6, which is 6m. in

Harding, but not in Lalande or Heis; No. 37, or Oeltzen 20363, called "a fine ruby star" by Sir John Herschel, and $6\frac{1}{2}$, and found to be only $8\frac{1}{2}$ or 9m., and fiery red with a 3-inch refractor in July, 1875, and L. 43,239. Generally, the objects mentioned in the author's second section will deserve further examination.

There is frequent reference to the magnitudes assigned in Proctor's "Atlas," by the side of those given by such original authorities as Lacaille, Heis, or even Harding; this is a mistake, and is more calculated to mislead than to assist a judgment on the question of variability. The author of this Atlas distinctly states in his preface that he has followed the magnitudes of the British Association Catalogue except for stars in Sir John Herschel's list, which is a comparatively small one; the work is more of a popular description, and so far as we know may be useful to amateurs, but it is idle to quote the indications of this Atlas with those of Argelaender or Heis, whose magnitudes are the results of actual comparison with the heavens. Probably after his clear reference to the source whence his magnitudes have been derived, no one will have been more surprised to find his work quoted as an authority in a question of change of brightness of a star than Mr. Proctor himself. We should hardly have referred to this point, were it not that others have made the same mistake as Mr. Gore.

There are many misprints in this small volume, which should be avoided in another edition.

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 ensure the appearance even of communications containing interesting and novel facts.]

A New Nebula

ON November 14, the Rev. T. W. Webb discovered a small nebula, or nebulous star, in Cygnus. It is apparently identical with D.M. + 41, No. 4004, 8.5m.

$$1880 = 21h. 2m. 31s. + 41^{\circ} 45' 3''.$$

At Dunecht Observatory the object was seen, on November 22 and 23, to be approximately monochromatic, seen through passing clouds; about 5" diameter.

LINDSAY

Dunecht Observatory, November 24

Does Sargassum Vegetate in the Open Sea?

THE reply of Dr. Wild in NATURE, vol. xx. p. 578 to my query, does not satisfy me, for he partly cites old reports, that are, as I showed, mostly suspicious of being a mixture of the prevalent opinion since Columbus and observed facts.

If it has been stated formerly that pelagic varieties (?) multiply only by simple growth and subdivision, and a wide area covered with sea-weeds corresponding to the Sargasso Sea occurring in the North Pacific, I believe that is only a compilation. I crossed the Pacific Sargasso Sea (as it is printed on the charts) in December, 1874, from 140° W. long., 35° N. lat., to 174° W. long., 29° N. lat., and observed no Sargassum at all! But it is possible that the quantity differs in different years. I ask, therefore—and beg for personal observations only—has any one seen a difference in the quantity or density of floating Sargassum in different years, and in what degree or quantity has (1) brownish or olive-coloured, and (2) yellowish pale Sargassum been seen in several years?

A flowering branch with buds of any garden plant, if cut and put into water, does not wither suddenly, but sometimes opens continuously to the buds, and may even sprout, but never for a long time; but we never call such cut flowering branches put into a water-glass water plants. I take Sargassum to be analogical, and it should not be allowed to consider the dying broken Sargassum or Fucus, that swing in the open sea, as pelagic in habit, or as a living variety of the open sea.