

has been a "black-board" subject in most, if not all, schools; and for this neglect there is little excuse, for a great number of most important experiments may be made without more expenditure than in the case of ordinary quantitative analysis.

A somewhat similar plan of work to the one in this little book has been followed for the last three or four years at the summer course of the Normal School of Science, and no doubt other Colleges where chemistry is a leading subject will have adopted some plan of practical organic instruction. The publication of this book will save some trouble to teachers in directing the preparations. The book is divided into two parts, and, curiously enough, what is generally considered the easier, viz. marsh-gas derivatives, are put in the second part. The author gives as his reason for this, that the selected examples offer fewer difficulties. That is a matter of opinion to some extent, and may depend on the course of lectures the student is hearing at the time.

In Part I., after the purification of alcohol, ether, benzene, and short descriptions of boiling-point determination and fractional distillation, we pass on to formation of benzene derivatives, commencing with bromobenzene, ethyl benzene, &c., to typical members of different families, ending with ethyl benzoate. The descriptions of process to be followed are short, but generally to the point, and are preceded in each case by references to the literature on the subject, which is a very valuable addition, and should be useful to beginners. The appendix, consisting of notes on the preparations, is very good, but would have been better placed, probably, in the text, or in connexion with the most typical substance of a group or family. As to the physical constants, melting and boiling points and specific gravity only are mentioned. Surely a great number of substances, the preparation of which is described, allow of their vapour-densities being taken by Victor Meyer's method? Beyond that there is little to complain of. The book is fairly well adapted for its ostensible purpose.

My Microscope. By a Quekett Club Man. (London: Roper and Drowley, 1887.)

It is impossible to give in a small volume of some sixty pages a clear description of the microscope and the wonders it reveals. Still the author has managed to make his little essays interesting; and if there is not much depth in his work, he has perhaps written enough to induce some of those who are not already the possessors of a microscope to get one. It is surprising that he has not laid more stress on the advantages of a binocular over a monocular instrument.

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.]

Sun and Fire Symbolism.

THERE is a phase of sun and fire symbolism in our very midst which seems hitherto to have received but little attention, viz. the presence of such symbols as crests or in the coats-of-arms of many of the oldest noble families and landed gentry of the British Isles. We find them in the greatest numbers in the armorial bearings of our Scottish families, and those belonging to the most northern counties of England; probably for the same reasons that they are most numerous on objects which

have been found in the northern portions of Scandinavia, *i.e.* that the light and warmth of the sun were naturally prized in such districts, and also because they have there survived longer, owing to the isolated position of the inhabitants depriving them of free intercourse with the outer world.

In a letter in NATURE (vol. xxxv. p. 558) headed "The Svastika both as Sun and Fire Symbol," I gave illustrations of some of the emblems of the sun and of the svastika as a fire symbol, and also alluded to the wheel as being in use in some countries to this day as a preservative against fire. A type of fire symbol exists in some parts of England at our very doors. In Gloucestershire and Herefordshire—possibly also in some of the other south-western counties of England—it is not an uncommon circumstance to see on the external walls of some of the older

houses one or two pieces of iron in this form



and sometimes thus



It seems evident that they

could not have added much support to the building, since they were bolted on to it at one point only—the centre.

A most interesting explanation of them was given a few years ago by an old servant of our family who died about five years ago; his age went with the century. He was a Gloucestershire

man, and on being asked the reason of the



form of

these irons, he replied "that they were made thus in order to protect the house from fire, as well as from falling down."

In the little village of Kingstone, in Herefordshire, it is still the custom for the people on the eve of May-day to take two

short pieces of wood and nail them in this form



over

the door of a house or a stable, removing the one of the previous year. On inquiry why this was done, the reply was, "To scare the witches or the evil spirits away."

In the crests and armorial bearings of many of our families we find at least three distinct forms of sun and fire symbolism.

- (1) The sun in splendour.
- (2) Fire, represented sometimes by a mountain in flames.
- (3) The sun as a ring, or as a simple circle, the heraldic terms for this latter type being amulets (Collins's "Peerage of England," London, 1779) and annulets (Sir Bernard Burke's "Peerage, Baronetage, and Knightage," London, 1880).

I propose now to give examples of a few of the most typical of each kind.

Blount, Bt.—This family is of French extraction, and formerly Lords of Guisnes, in France; their crest is an armed foot in the sun. Motto, *Lux tua via mea.*

Blunt, Bt.—Probably originally the same family. These latter have for a crest the sun in glory, charged in the centre with an eye, issuing tears.

In the Earl of Clancarty's arms—the Trenches came from Poitou in 1575—on the first and third quarters is the sun in splendour, and in the centre an escutcheon with the coronet of a Marquis of the Netherlands, charged with a wheel with six spokes. (The wheel is still used as a preservative against fire, both in Holland and in Denmark.)

Musgrave, Bt., of Hayton, has, for his crest, two arms in armour embossed, sustaining the sun; so has also Musgrave, Bt., of Tourin, co. Waterford; and their arms are the same.

The rising sun and the sun in his splendour is also borne—

By the Marquis of Lothian, by the Earls of Stamford and Warrington, by Lords Polwarth and Hammond—Lord Polwarth's crest is a lady richly attired, holding a sun in her right hand and a half moon in her left; and it also forms the crest of Tyrwhitt, Bt., Fairbairn, Bt., the Earls of Antrim, Nicholson, Bt., where it is placed between two stars of eight points, and of many more families.

We find fire symbols in connexion with the sun in the armorial bearings of Macleod of Lewis. Their crest is the sun in splendour, and in their arms they have a mountain in flames on the