given if only for the benefit of those who like to make gorgeous preparations.

A small book on "Microscopical Manipulation," well up to the time, would be useful to students. We are sure Mr. Suffolk does not wish to claim this position for his digest of the older handbooks. His excuse for its publication must be that in this country there are many people who indulge in the expensive peepshows sold by our English opticians, to whom it will really be acceptable.

It must not be imagined that we for one moment object to such amusements; on the contrary, they are altogether to be commended where more serious work cannot be undertaken—and only then. E. R. L.

Notes of a Season at St. Moritz in the Upper Engadine, and of a Visit to the Baths of Tarasp. By J. Burney Yeo, M.B. (London: Longmans, 1870.)

WE commend this sensibly-written and interesting little book to the notice of our readers, many of whom, notwithstanding the outbreak of hostilities between our friends across the Channel, may yet seek health and enjoyment in these remote valleys, where it is in the highest degree improbable the tide of war will ever roll. Dr. Yeo's little brochure contains all that it is necessary the intending tourist need know, and much that the invalid ought to know before starting for the Upper Engadine. To the latter class of travellers in particular it is of no slight importance to know the nature of the lodging and food they can obtain, and the advantages to be gained from a residence in a new and untried region; and upon these points Dr. Yeo's experience enables him to speak with much confidence. St. Moritz, it must be remembered, is 6,000 or 7,000 feet above the level of the sea, and the air, though bright and clear, is by no means warm. The waters contain a small proportion of iron, and are strongly charged with carbonic acid, which may perhaps act as a stimulant both to the skin and the stomach in tolerably healthy patients; but Dr. Yeo makes some judicious remarks on their effects on those who are debilitated and exhausted, and the advantages resulting from leaving off the prescribed cold bath, and glass or glasses of cold water. The last chapter contains a capital account of the Fauna and Flora of St. Moritz and Tarasp, the latter embracing between 300 and 400 plants, arranged according to their natural orders.

Reactions-Schema für die qualitative Analyse, zum Gebrauche im chemischen Laboratorium zu Berlin. (Berlin, 1870. Verlag von August Hirschwald. London: Williams and Norgate.)

THIS is a kind of pictorial analytical table in which the characters of the precipitates obtained are indicated by coloured oblong spaces, which will, doubtless, be found very useful for impressing the appearances of the different precipitates on the mind of the student. The borax bead obtained with a compound of cobalt is represented by a blue oval, and the effect of ammonia on red litmus paper is shown by an oblong half red and half blue. The changes of colour produced by the action of sulphuretted hydrogen on a salt of mercury are indicated by an oblong of four different colours, white, yellow, orange, and black.

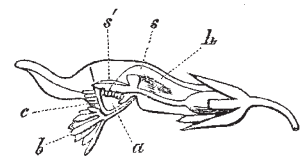
It is unfortunate that this table is not more complete; thus no means of obtaining the solution to be treated is mentioned; the destruction of organic matter before precipitation by ammonia and ammonia sulphide is omitted; the possibility of the precipitate in the third group containing phosphates, and the mode of examining it under such circumstances, is passed over entirely. The spectra of potassium, sodium, and lithium, are indicated by black lines with fine transverse white ones, representing the coloured bands, but unfortunately no means are given to show which is the more refrangible end of the spectrum. Besides these omissions there are some misprints which will no doubt be corrected in a subsequent edition.

LETTERS TO THE EDITOR

The Editor does not hold himself responsible for opinions expressed by his Correspondents. No notice is taken of anonymous communications.]

Fertilisation of Polygala

HAS the method of fertilisation of the milkwort, *Polygala vulgaris*, yet been described? It presents one of the most beautiful contrivances with which I have hitherto met for securing a cross through the agency of insects. The corolla consists of five petals united into one piece and folded into the form of a two-lipped tube, the upper lip of which is formed by the over-lapping edges of the corolla; while the lower lip is a somewhat cup-shaped appendage (*c*), furnished with a "beard" of gland-like bodies (*b*), and opening in front by a narrow, vertical slit. The filaments of the stamens are united throughout the greater part of their length with the corolla, but expand within the cup of the lower lip into a two-lobed membrane, crowned by the anthers (*a*). The pistil has two stigmas, one of which (*s*) is



placed at right angles to the upper side of the style and is perfect, while the other (*s'*) is transformed into a spoon-shaped, petaloid prolongation of the pistil, reaching to the opening of the lower lip of the corolla, and dividing the interior of the flower into two chambers, in the lower of which are the stamens, thus completely separated from the true stigma. The entrance to the flower, below the style and in front of the stamens, is closed by hairs pointing outwards from the flower and meeting in front, on the mouse-trap principle; but a narrow passage is left open above the petaloid stigma, and is perhaps capable of a slight distension from the flexibility of the overlapping petals. On each side of the interior of the tube of the corolla, above the style and just behind the true stigma, is a group of strong, white hairs (*h*), pointing down the tube of the corolla, and meeting above the style. If we now suppose a small insect to light upon the "beard" of the flower, it is prevented from immediate entrance by the projecting hairs, but soon finds the narrow passage leading over the stigma into the upper chamber. It is prevented by the hairs in the tube of the corolla from returning by the same path, and is obliged to crawl out through the lower chamber and over the stamens; pollen from which it will, by a repetition of the same process, convey to the stigma of the flower next visited.

In the bud the anthers are in contact with the stigma, and some caution is necessary in dissecting that they may not be crushed, giving the appearance of the pollen having been deposited *en masse* on the spoon-shaped stigma. Naturally, I believe, the pollen is never shed till after the complete expansion of the flower.

I have never actually observed any insect either in the flower or sucking nectar from it, but I have almost invariably found a few small black flies upon the bunches that I have brought in for examination.

The broad and conspicuous "wings" of the calyx having fulfilled their office of "tempting insects to their food," gradually assume the green colour of the ordinary leaves, and closing over the ripening capsule, serve probably to conceal and protect it from the attacks of some enemy.

Kilderry, Co. Donegal W. E. HART

P.S.—I have to record a similar phenomenon with respect to the holly berries of this neighbourhood to that mentioned by Mr. Henry Reeks (NATURE, June 9). I did not remark that any varieties in particular had been rejected; but few that bore fruit (of which there was a much greater quantity than usual) appeared to have lost any of it, so late as the end of May. And yet we had not fewer of the migratory thrushes than in former years, when the holly bushes were generally stripped of their berries before the end of January; and, on the other hand, we had several days of frost, extraordinarily hard for this neighbourhood. On what arguments does Mr. Reeks ground his presumption, so different from Mr. Darwin's own con-