fungus has a season of rest underground, and whether in the condition of resting spores, a sclerotioid mass or a number of mycelioid threads, the principal fact remains that the fungus lives through the winter in a state of rest. As to certain potatoes being able to resist the disease, I shall shortly be able to show that whilst certain breeds of potatoes *entirely resist* it in one place, they fall a *ready prey* to it in another.

Hence any experiments carried on in one place by one person, though valuable in themselves, must be inconclusive and imperfect.

The great question is, "How can the disease be evaded or destroyed?" and this can only be answered, if answered at all, by men who thoroughly know the fungus and its allies.

WORTHINGTON G. SMITH

The Denudation of Limestone Hills of Sarawak

THERE is an agency in the denudation of the limestone rocks of Saràwak which I do not think has been noted, but which is very efficient locally in its operation.

The limestone in question is a dark-blue compact rock (probably the oldest stratified formation in this part of Borneo) full of fissures and joints, and forming hilly tracts in Saràwak proper and Samarahan. It is a not uncommon occurrence during periods of unusual drought for the jungle clothing these hills to take fire in some unascertained way, and for large tracts of the vegetation to be destroyed before the conflagration dies out or is extinguished by rains. Such an accident took place two years ago on the Jambusan hill, and a short time previously on Gunong Ãñgus (whence the present name, "Burnt Hill"), and on Marajah, a large hill near Bidi; and I have been informed by natives that similar fires are known at the head of the Undup, where I have observed from a distance extensive masses of limestone.

When such a fire takes place, not only may we take for granted that a great deal of surface-rock is more or less calcined, so as to be easily removable by the heavy tropical rains; but, there being no covering of soil to speak of, and the exterior rock having been merely bound together by a matted network of roots and creepers, large masses of rock—long loosened by weathering, or freshly detached by the expansion of air and water in the fissures—keep falling from the higher parts of the hill as their supports are burnt away; whilst groups of burning trees go crashing down the scarps, assisting the work of degradation by collision with the inequalities in their paths.

It is, however, subsequently to the fire that its most important effects become apparent. For the next year or two fresh dislodgments of rock will be continually taking place, particularly when, after the almost daily rains, the sun shines out, striking on the bared rock with rays of tropical fervour. Many years elapse before sufficient soil collects in the crevices of the rock to support vegetation; and until the whitened face of the hill is once more shrouded in jungle, it remains immediately exposed to steady sub-aërial denudation; so that, bearing in mind the immense rainfall, the abundance of fissures and joints in the stone, and its solubility, I am inclined to believe that the degradation of these hills which goes on during the interval before they again become efficiently shielded with vegetation, is comparable to centuries of waste of the same rock under ordinary conditions.

Were the limestone hills of Saràwak more gently rounded and less scarped, their destruction through the agencies above described might not be noteworthy; but, owing to the frequency of lines of old sea-cliffs and mural precipices, nearly the whole of the detached rock passes at once to the bases of the hills, where it is again attacked by the rains, assisted now by running streams or standing water.

Saràwak, July 1 A. HART EVERETT

An Appeal to our Provincial Scientific Societies

NOW that our provincial museums are yearly increasing in number, it appears desirable to draw the attention of the provincial scientific societies to their importance as the centres for the private collections illustrative of the local geology, natural history, and archæology which from time to time come into the market. We are entirely indebted to private energy for any British collections which we possess. How lamentable then is it that there is no public system for centralising them in our public museums, and thus saving them from dispersion by their passing into the hands of dealers or private collectors, or into the possession of foreign or metropolitan museums. Every year witnesses such losses, which are regarded with complete indifference by our local representatives of Science. It is unaccountable that not one of our provincial Societies has as yet had the public spirit, energy, or foresight to see the importance of this work and of raising a fund for the purpose of ultimately securing such collections for the district.

It is a question of national scientific importance. The collections which are formed during the present century may be said to represent the "pick" of the country. By-and-by, when localities are worked out, and the rarity and value of specimens greatly increased, we may awaken to a sense of the mistake we have made in not devoting our energies less to palæontological literature, and more to the formation of complete and exhaustive local series and collections, and thus smoothing the path of, and providing interest for, the investigators of our fossil and recent flora and fauna.

Such is the lack of originality displayed in this country, and precedent is so blindly followed, that everywhere we find narrow scientific cliques, so-called "Societies," apparently formed merely for the sake of having social gatherings and by means of a local periodical facilitating the cheap publication of the papers of such as contribute.

The energy thus expended is almost entirely thrown away. Indeed, so far as the journals of these "societies" are concerned, these societies are mere hindrances to the progress of Science, for, did they not exist, the papers which appear in their obscure journals (or "napkins," in which the "talents" of these societies lie hid) might be contributed to such as have a general circulation, and thus benefit the world at large. I would most earnestly impress on our scientific Societies the great importance of devoting their energies more to the formation and preservation of complete and exhaustive local collections. With such division of labour how much more accurate and rapid would be the progress of the sciences of Geology and Biology.

S. G. P.

The Killing of Entomological Specimens

A NOTE in a recent number of NATURE, reminds me of some experiments I made about 15 years ago upon the action of the vapours of volatile liquids (hydrocarbons, chloroform, &c.) on insects, my object being to find an expeditious and painless method of killing entomological specimens. Several vapours produced insensibility from which the insects recovered more or less rapidly, but bisulphide of carbon vapour killed them effectually.

My method of applying it was to place a few layers of blotting paper, lint, or cotton wool, on the bottom of a wide-mouthed bottle, pill box, or other convenient place of execution; then to pour a few drops of the liquid upon this and confine the insect in the receptacle, which on account of the great density of the vapour need not be very accurately closed. The action of the vapour must be continued a few minutes after signs of life have disappeared, or the insect will recover.

The most obstinate of beetles succumb without a struggle, and the most delicate of moths or butterflies are uninjured, provided the liquid itself does not touch them. Butterflies may be killed after they are pinned out, by simply placing a little cotton wool soaked with the bisulphide in a box near to them.

W. MATTIEU WILLIAMS

Lecture Experiments

THE result of convection in a liquid, tending to cause the upper part of the mass to be constantly at a higher temperature than the lower, may be well illustrated by the two following experiments:—

Two large glass beakers are placed in front of a sheet of white paper, one of them filled with cold the other with boiling water. A boiling-tube filled with freshly prepared starch solution which has been coloured deep blue by gradual addition of aqueous solution of iodine, and has then been heated until the colour just disappears, is plunged into the beaker of cold water; the blue colour, caused to return by the cooling of the solution, will appear first at the bottom of the tube and then gradually creep upwards, showing that the lower part of the heated liquid first becomes sufficiently cooled to cause the return of the colour. In order to insure the disappearance of this colour by heat, an excess of iodine must be carefully avoided.

In the boiling water contained in the other beaker is immersed a boiling-tube filled with the blue liquid obtained by adding