to keep one's balance, and as we both had heard that this sand had swept over an old silver mine, there was a clear impression on the minds of both that the vibration *might* break in the roof of the old workings. I write of this experience for what it is worth. I do not know whether the ground under the sand was hollow or solid, and although I have ventured to theorise on the subject, as yet I have found no satisfactory solution of this, to me, quite unique experience. M. H. GRAY.

Lessness Park, Abbey Wood, Kent.

The Æther of Space.

As one who has read with the greatest appreciation the work recently written by Sir Oliver Lodge on this subject, I take it that the following statements represent fairly well the condition of scientific opinion at the present time :—

(1) The fundamental units of which matter is composed are probably individualised regions of the universal æther, neither condensations nor rarefactions, but distinguished by some kinetic structure from the unmodified æther surrounding them.

(2) The æther, as a whole, is stationary, there being nothing of the nature of æther currents, but it possesses an exceedingly fine-grained circulation in closed curves, its elasticity being of kinetic origin.

(3) So far as the motion of a mass of matter is concerned, there is no ætherial viscosity, and, consequently, the earth carries no æther with it in its motion. We therefore live in an æther stream due solely to the earth's motion in space, and having the full value due to its velocity, the failure of Prof. Michelson's delicate experiment being due to a lessened cohesion (of electromagnetic origin) in any length of matter carried at right angles to the æther stream.

The question arises as to whether the æther which forms any mass of moving matter remains the same. Assuming the above statements, there appear to be two alternatives. Either the æther, distinguished by special structure, which composes the ultimate units of which matter is built up, has a bodily transfer through space, or the æther in the line of approach must be rapidly caught up in the advancing vortices (or whatever the structure may be), fused into their being, and as rapidly liberated along the line of recession.

If the former supposition be correct, there must be a region of slip in the æther surrounding the ultimate units (electrons); if the latter, we have the very interesting conception of matter being incessantly made and unmade as regards its fundamental units with a speed proportional to the velocity of motion. All the physical properties of a given mass of matter would remain constant, while the æther, the substratum of its existence, was changing.

If this reasoning be not in error, I shall be glad if Sir Oliver Lodge or any other physicist will indicate which of these views obtains acceptance.

CHARLES W. RAFFETY.

Wynnstay, Woodcote Valley Road, Purley, Surrey, July 15.

Botanical Surveys.

REFERRING to the review, in NATURE of July 15, of Mr. F. Morey's "Guide to the Natural History of the Isle of Wight," in which it is suggested that the Isle of Wight affords wide scope for a botanical survey on the lines followed by Dr. W. G. Smith and his school of plant-ecologists, it may be of interest to the reviewer and others to state that already the primary survey of the district has been completed and maps made by the writer, in association with the Central Committee for the Study of British Vegetation.

As suggested by "F. C.," a bare species list, even if complete, can do but scant justice to the variety of the vegetation of the Isle. Though in some types it is second in interest to the opposite mainland of South Hampshire, as, for example, in the calcareous grasslands and dry and wet heathlands, yet the almost full development of maritime associations and the diversity of the woodland formations do much to restore the balance.

The island has been under a long-continued civilisation, yet there still remain, almost untouched by man, several station-associations which, according to the plan of Prof. Conwentz, would be among the first to be scheduled as "natural monuments." In this last respect the island is but typical of much of Britain, and the regret expressed by your reviewer that the makers of county floras are not animated even by the spirit of Baker's "North Yorkshire" is shared by all who know the standing of British plant-ecology. To such it is sad that the period which saw the publication of Wheldon and Wilson's "West Lancashire" saw also the publication of the arid lists of many of the Victoria county histories, as of Lancashire itself. W. MUNN RANKIN.

Storey Institute, Lancaster, July 19.

The *Acarus Crossii*.

SOME months ago (NATURE, February 4) a correspondent directed attention to the account of Crosse's remarkable experiences when experimenting with electric currents, and the appearance of quantities of an acarus in the solutions treated, as fully narrated in Chambers's "Vestiges of the Footsteps of Creation," and the question was asked whether any explanation of such strange phenomena had ever been heard of. No reply seems to have been made, and, presumably, no recent attempts to investigate the mystery have taken place. It may be of interest to note that Chambers's account is fully corroborated in the "National Dictionary of Biography," and it appears that Crosse, though he did not make any suggestions as to "spontaneous generation," but merely related the facts and left explanations to others, found himself the victim of such a shower of abuse that he thenceforth entirely abandoned all research work and retired into obscurity. His experiments would probably have been forgotten but that they were repeated with complete success by another worker. Considering how much more easily prolonged electric action can nowadays be applied, would it not be well if someone would have the patience to repeat once more the exact conditions so amply described by Chambers, and so, if possible, clear up what is undoubtedly a very mysterious occurrence? CHARLES E. BENHAM.

28 Wellesley Road, Colchester, July 7.

Barisàl Guns in Australia.

IN NATURE of June 4, 1908 (vol. lxxviii., p. 101), under the title of "Barisàl Guns in Western Australia," you published a note from me describing a peculiar, loud detonation heard by my companions and myself while on the Strelley River, in the north-west of Australia. In reading Captain Sturt's "Two Expeditions into the Interior of Southern Australia during the Years 1828, 1829, 1830, and 1831," I find that, when camped on the newly discovered Darling River, near what is now the town of Bourke, in New South Wales, in February, 1829, a very similar sound was heard by the explorers. Sturt's words are as follows :—"About 3 p.m. on the 7th Mr. Hume and I were occupied tracing the chart upon the ground. The day had been remarkably fine, not a cloud was there in the heavens, nor a breath of air to be felt. On a sudden we heard what seemed to be the report of a gun fired at the distance of between five and six miles. It was not the hollow sound of an earthly explosion, or the sharp cracking noise of falling timber, but in every way resembled a discharge of a heavy piece of ordnance. On this all were agreed, but no one was certain whence the sound proceeded. Both Mr. Hume and myself had been too attentive to our occupation to form a satisfactory opinion; but we both thought it came from the N.W. I sent one of the men immediately up a tree, but he could observe nothing unusual. The country around him appeared to be equally flat on all sides, and to be thickly wooded: whatever occasioned the report, it made a strong impression on all of us; and to this day, the singularity of such a sound, in such a situation, is a matter of mystery to me" (2nd edition, 1834, vol. i., p. 98).

J. BURTON CLELAND.

Bureau of Microbiology, Sydney, New South Wales, June 19.