

getting lower every year, and would never again attain the level that they once had according to the traditions of past generations. It should be added that the springs were at their highest about the commencement of this month, and are now gradually falling.

P. L. SCLATER

Hoddington House, Odiham, March 31

Scorpion Suicide

I AM sorry that my experiments on scorpion suicide have given pain to some of your correspondents. Allow me to explain in a few words the object of my investigation. It is commonly believed in this colony and elsewhere that scorpions commit suicide; Dr. Allen Thomson, in a letter to NATURE, lent the weight of his scientific name to this view; and Dr. G. J. Romanes, in his "Animal Intelligence," treats it as an open question. Now if this habit of committing suicide be an established fact, we have in scorpions a highly persistent type of creature that inherits a habit detrimental alike to the individual and the species. *Scorpion suicide, therefore, if a fact, is one of the strongest individual cases against the Theory of Evolution by Natural Selection that is presented to us in the animal kingdom.* It seemed to me that the only way of settling this question was by the direct appeal to experiment. But is the Theory of Natural Selection of sufficient importance in its bearing upon human life and human progress to justify the infliction of pain upon, say, sixty scorpions? I am one of those who believe that it is. I am one of those who believe that the theory of evolution has enormously influenced human thought and action, and is destined to influence it in a constantly increasing degree. I believe that much of the moral and intellectual progress of our race is indissolubly associated with this theory of evolution. I may be wrong in that opinion, but that is the opinion I hold. And holding that opinion it became to me a duty to do something towards settling a question which seemed to me to be of great importance in its bearing on the evolution theory. And it was my object to do the work, as far as I could, thoroughly and once for all. I believed that if I could show that even under torture scorpions do not commit suicide, the view that they do so when irritated by the bright light of a candle-flare became highly improbable. To establish a negative in the face of positive assertions is, however, difficult, and I considered it necessary to experiment upon a number of individuals. *Hinc illæ lachrymæ!* One of my friends, however, protested as follows: "The theory of evolution," he said, "is now so strongly established, that scorpion suicide is *a priori* impossible." But I hold it to be dangerous in the extreme, in the present position of science, to set up the theory of evolution as a doctrine from which to draw deductions, *unchecked by an appeal to nature where such appeal is possible.*

C. LLOYD MORGAN

Rondibosch, March 12

Nesting Habits of the Emu

I AM able fully to confirm Prof. Moseley's statement of the habits of the emu in nesting at Blenheim. Some years ago my father was very successful in rearing these birds at his place at Brockham Lodge, near Dorking. The first egg was usually laid shortly after Christmas; the total number of a brood being from fifteen to twenty, laid usually at intervals of about forty-eight hours. Some time before the full number was laid the cock bird would commence the incubation by carefully drawing them under him. When the hen bird was ready to add to their number she would sit down by his side, produce the egg, and her mate would then carefully draw it under him with his foot. As soon as the number was completed, it became necessary to seclude the hen bird, as she was from this time "vicious" towards her mate and towards her own eggs; and the seclusion continued until the young birds had attained a considerable size, as she showed every disposition to destroy them. The number of eggs laid was often too large for the cock bird to get comfortably under him. Still during several years that my father kept the birds a considerable number of eggs were annually hatched, and the young birds reared to the breeding age. No brood from native birds was, however, obtained. They showed no disposition to change the breeding season from January to July. In captivity the birds strikingly exhibited their singular inquisitive propensities. They were not usually vicious, except during the breeding season, but were very easily frightened.

London, March 31

ALFRED W. BENNETT

The Recent Cold Weather

THE excessively severe and prolonged cold weather of the month of March has hardly a parallel in this century. It appears to have been felt throughout Europe, and has even reached the shores of Africa. Frost, snow, and wintry gales we expect at a season proverbial for its fitful severity, but the scarcely interrupted sweep of the frigid atmospheric waves which have overwhelmed us for three successive weeks is an experience of weather so remarkable that I conceive the record will probably interest some of your readers.

In position, altitude, and in its freedom from the sheltering influence of large towns, this station may be accepted as favourable for giving an accurate account of the weather in the centre of England. Our instruments are on a proper meteorological stand, and are by Negretti and Zambra. I may add that, in its blighting influence on vegetation stimulated into activity by a mild and moist period in February, this weather has proved more destructive to early fruit blossoms, certain shrubs and plants accepted as hardy, than from any weather previously experienced in March in other years; but apart from vegetation, and acting on the upturned fallows and soddened clods of clay, the penetrating winds, frequent frosts and falls of snow have pulverised the land, so that it falls before the plough or harrow like calcined limestone, and in respect to the preparation of land the weather has had a beneficial action.

Record of Weather, March, 1883, at Belvoir Castle, Leicestershire

| March. | Min. | Max. | Grass. | Wind. | Rain. | Snow. |
|--------|------|------|--------|----------|-------|-------|
| 4 | 27 | 50 | 27 | S. to N. | — | — |
| 5 | 27 | 51 | 20 | N. | — | — |
| 6 | 33 | 52 | 29 | N. | — | 0".2 |
| 7 | 26 | 40 | 22 | N. | — | 0".2 |
| 8 | 24 | 41 | 24 | N. | — | 0".25 |
| 9 | 20 | 35 | 14 | N. | — | 0".12 |
| 10 | 9 | 37 | 4 | N. | — | 0".5 |
| 11 | 20 | 38 | 10 | N. | — | — |
| 12 | 25 | 39 | 23 | N.W. | — | 0".2 |
| 13 | 25 | 39 | 20 | W. | — | 0".1 |
| 14 | 29 | 40 | 22 | W. | — | — |
| 15 | 27 | 39 | 20 | N. | — | 0".5 |
| 16 | 26 | 38 | 19 | W.S.W. | — | — |
| 17 | 28 | 38 | 24 | S.W. | — | 0".9 |
| 18 | 25 | 40 | 20 | S. | — | 0".1 |
| 19 | 28 | 42 | 21 | N. | — | 0".1 |
| 20 | 31 | 40 | 31 | E.N.E. | — | 0".31 |
| 21 | 32 | 37 | 31 | N.E. | — | — |
| 22 | 28 | 35 | 27 | E. | — | — |
| 23 | 28 | 35 | 26 | N.E. | — | — |
| 24 | 18 | 42 | 5 | W. | — | — |
| 25 | 26 | 45 | 16 | N.W. | 0".4 | — |
| 26 | 26 | 41 | 19 | N.W. | 0".5 | — |
| 27 | 27 | 40 | 18 | N. | — | — |
| 28 | 26 | 43 | 16 | N.W. | — | — |
| 29 | 24 | 41 | 12 | S. | — | — |
| 30 | 35 | 48 | 35 | S. | 0".3 | — |
| 31 | 30 | 55 | 24 | S.W. | 0".11 | — |

Belvoir Castle Gardens

WILLIAM INGRAM

Sap-Flow

A REMARKABLE instance of the strong up-rush of sap in trees at this time of the year occurred here during the late severe weather. The boughs of a sycamore overhanging a road were trimmed on the 21st of this month during a very keen frost, and next day icicles of frozen sap, varying in length from a couple of inches to a foot, were hanging from the severed ends. The icicles were semi-opaque in appearance and slightly iridescent, like the sheen on the moonstone, and, when put in a bottle and melted, the product was pure sap.

The sycamore, being one of the earliest trees to develop leaves, had its sap rising, notwithstanding the intense cold and late season; while a beech, which is much later in coming out, and an ash, which is usually latest of all, whose boughs had also been lopped, showed no signs of bleeding, and the cuts remained dry and bare.

The icicles have been melted, reformed, and melted again since the 21st, and still the sap is dropping from the cuts.

Highfield, Gainsborough, March 28

F. M. BURTON