

this day shown any signs of life whatever, although seeds from the same packet, planted simultaneously under ordinary circumstances, are now well-grown young plants. After my first failure, I procured pure concentrated formic acid (sp. gr. 1.300) freshly made, and on repeating the experiments with it, other things being the same as in the former experiment, the result was again entirely negative. I then tried various other seeds, first soaking them in water for periods varying from five hours to three days before treating them with the acid, but all with no result. So far as I could judge, the only effect of the acid was to increase the density of the seed and to retard the growth, so much so that some of the seeds (common *Lupinus*), which under formic acid showed no signs of growth, as soon as they were thoroughly washed and placed under normal conditions began to germinate in the usual way. Since these experiments I have tried many different seeds and many different strengths, but have only so far succeeded in retarding their growth. I also attempted to inject the acid (1.5000) by means of a hypodermic syringe into the substance of growing seeds and bulbs, and in two instances I succeeded in killing a *Begonia* tuber and an *Arum* lily, and certainly none of the other plants treated showed the faintest symptom of increased vitality. W. R. M. SEMPLE.

Hendford Park, Yeovil, April 11.

Rooks at Nesting Time.

OPPOSITE my windows are lofty elms on which rooks have established themselves. In one tree there are three nests with sitting birds; a fourth nest, which was built this spring, has never been fully occupied, and a fifth is now in course of construction.

It is in relation to the last two nests that a singular fact is noticeable. A pair of rooks are apparently mated, flying off and returning together, and roosting at night on the same branch.

Both are engaged in building, but on different boughs; both select the same tree, almost, the same branch, for twigs, and both return home spray in beak. But while the hen bird flies to the incomplete nest (which she has built up, unaided, from the beginning, and is now three-fourths finished), the cock bird settles on the old nest, at the other side of the tree, and adds an upper story to an already capacious mansion.

How is this binary housekeeping or nest-building to be explained?

There have been further complications in the rookery since I wrote the foregoing a fortnight ago.

Then the situation was that a couple of rooks (apparently paired) were working together in collecting twigs; but while the hen bird carried hers to a new nest on the north side of an elm, the cock took his to an old nest on the south side.

Still they roosted and flew together, and behaved as engaged rooks should do, the cock now and then bringing a twig or two to the hen's nest, but chiefly working on his own.

In a few days the cock brought home another mate, and both birds set to work at the old nest. Although, for a day or two, appearances were still preserved, the original hen at last resented this trifling with her affections; she pecked at and drove off the cock, stole lining from his nest, and has since lived a life solitary and misanthropic. I see no sign of a new mate, but the hen sits by or on her own nest, and routs all new-comers who approach it.

On the same tree I have seen a singular case of wholesale burglary in which the sufferers are the new occupants of the old nest I have referred to, and the burglars a new pair of rooks. For a week they strove and failed to build a nest in an honest way, *i.e.* by breaking twigs from other trees; but they made no progress, the wind repeatedly blowing away the foundation during their absence in quest of materials.

One night, however, the wind dropped. The pair got up very early next morning, fell on the old nest (the tenants having gone off to feed), and by nine o'clock had three parts finished a new nest, on the north-west side, built entirely out of plunder from the old nest. To this they have since added a clumsy top story made of new materials.

One other curious fact, and I will take up no more of your space. On another elm a stray hen had persisted in thrusting her unwelcome attentions on an established pair now feeding their squabs. She had been there some days, and apparently was at last tolerated. One night, however, as many as ten desperate battles took place; the combatants falling, still locked

in combat, from the topmost bough almost to the ground, and as often returning to the fray at the nest-side. This morning Aunt Caroline is *non est*, but I expect she will turn up again before long. Meanwhile, due perhaps to the extra food the young birds got by the exertions of the aunt, they are the largest and strongest in the rookery. F. E. BAINES.

Leamington, April 28.

An Auroral Display on May 2.

ON the evening of Saturday, May 2, at Filey (Yorkshire) I observed faint indications of an auroral display as early as 10 o'clock. On going out of the house at 11.10, five streaks of light were seen in the north, and a small cloud of light appeared on the horizon, which quickly rose and formed a perfect bow of light of great length and some 10° above the horizon at its highest point; by 11.15 all the streaks had disappeared. At 11.30, rapid beams of light were seen following the curve of the bow from west to east, each succeeded by straight arrow-like flashes above the bow in the opposite direction; 11.36, streaks again appeared on the eastern side; 11.39, the bow threw off clouds of light radially, first on the western, then on the eastern side; 11.42, the phenomena observed at 11.30 again set in on the western side; 11.49, the bow became very sharp towards the west and threw out streaks of light, while towards the east it became broken and flickering; 11.55, streamers appeared on the eastern side, and the bow became contracted on this side and smaller, striking the horizon at a higher angle; 11.58, the bow thickened and threw off radial clouds again; 12.1, a fine streamer appeared on the extreme eastern side; 12.3, the bow became very irregular, and for the first time the streamers appeared to start below the bow, three very sharp ones forming towards the east; 12.7, a second bow formed below the original one; 12.9, the bow broke up entirely towards the east into fine streamers, radial clouds of light being thrown off in the west; 12.20, bow became very indistinct in the west, and streamers gave place to clouds of light in the east; 12.22, streamers reappeared in the east; 12.25, arc of the bow reformed; 12.27, bow narrowed down and broke into two bows; 12.30, bow became irregular and sank down towards the horizon; 12.37, bow disappeared and faint streamers formed. After this a gradual fading set in, but the light was still visible though feeble at 1 a.m. The atmosphere had been exceptionally clear all through the day. A. E. M.

Felsted School, Essex.

Daylight Meteor, April 12.

THE meteor referred to in *NATURE* of April 23 (p. 581), was seen by me in Glasgow, low down on the S.E. horizon, at 8.5 p.m. The position of its visible path was carefully noted at the time in relation to a church spire, which it just seemed to touch. On April 27, at 10.30 p.m. the centre of the full moon was 2° above this point, its declination was therefore 22° 13' S., and its R.A. on April 12 at 8.5 p.m. was 10h. 39m. On account of some intervening shrubs the meteor's path was only visible over a distance of 10°, but the declination seemed to remain unchanged. C. E. STROMEYER.

Glasgow, May 2.

THE ROYAL SOCIETY SELECTED CANDIDATES.

THE following are the names and qualifications of the fifteen candidates recommended by the Council of the Royal Society for election this year:—

SIR GEORGE SYDENHAM CLARKE,

Major, R.E., K.C.M.G., Secretary to the Colonial Defence Committee and Associate Member of the Ordnance Committee. Late Secretary to the Royal Commission on Administration of the Naval and Military Services. Examiner to the Science and Art Department and the Military Education Department. Formerly (from 1871 to 1880) Instructor in Geometrical Drawing in the Royal Engineering College, Cooper's Hill. Joint Author of paper "On some Figures Exhibiting the Motion of Vibrating Bodies, and on a New Method for Determining the Speed of Machines" (*Proc. Roy. Soc.*, vol. xxvi., pp. 157-163), and of a paper "On the Determination of the Rate of Vibration of Tuning Forks" (*Phil. Trans.*, 1880, pp. 1-14). Author of