obtained on the negative electrode at a pressure of 6·5 cm. of mercury, while for the same distance between the salt and the electrodes the maximum deposit on the positive electrode was not obtained until a pressure of 1 cm. of mercury was reached. In this experiment the maximum activity obtained on the negative electrode was about 2·75 times the maximum activity obtained on the positive terminal. In all the experiments at the various pressures the discs were exposed for two hours to the action of the emanation from the actinium before being removed from the exposing vessel for measurement. The salt used was obtained from the Chinin Fabrik at Brunswick, Germany, and the active deposits on both the electrodes were found to have a decay period of approximately thirty-nine minutes.

The experiments as a whole point to the ions produced by the radiation from the active salt and its products in the gas in which the salt is placed as the carriers of the active deposit. They seem to indicate, moreover, that the known differences in the rates of diffusion of positive and negative gaseous ions will suffice to explain the differences obtained in the amounts of the active deposit on the two electrodes.

J. C. McLENNAN.

Physical Laboratory, University of Toronto,
February 6.

Germination of the Broad Bean Seed.

MR. HEBER SMITH'S observations on the relation of the micropyle to the radicle in the seed of *Vicia faba* (NATURE, February 4, p. 400) are quite correct. It is surprising that the structure and germination of this seed, so extensively used in elementary botanical teaching, should be so frequently misunderstood by teachers and wrongly described in text-books. The curious minute structure of the coat of leguminous seeds has been thoroughly investigated by Haberlandt, Beck, Pammel, and others, but has never, to my knowledge, found mention in any student's text-book. There is, however, no excuse for the inaccurate statement, made in many an elementary work on botany and on nature-study, that the radicle always grows out through the micropyle when germination begins. Beyond admitting water into the seed, the micropyle, as a rule, merely forms a weak spot in the testa and enables the radicle to split the latter, while in leguminous seeds the splitting occurs quite independently of this aperture.

In the broad-bean seed, with its well-developed "radicle-pocket," the swelling radicle, aided by the elongating cotyledon-stalks, pushes out a V-shaped flap, the micropyle being (as Mr. Heber Smith states) left intact. The two "lines of weakness," which form the edge of the flap, answer to the junction of the radicle-pocket with the inner surface of the testa. The partition which constitutes the inner wall of the pocket can be seen in sections of young seeds as a ridge projecting into the seed cavity between the micropyle and the radicle.

In the seeds of French bean (*Phaseolus vulgaris*) and scarlet runners (*P. multiflorus*, &c.) the pocket is less highly developed, and at an early stage the coat splits transversely, starting from the tip of the radicle. As in the broad bean, the micropyle remains intact at the end of the hilum.

The early stages in the germination of broad bean are, I believe, accurately shown in my "Life-histories of Common Plants," Fig. 10.

FRANK CAVERS.

Hartley University College, Southampton,
February 13.

Scientific Societies and the Admission of Women Fellows.

NATURE of February 11 contains an able article on the Chemical Society and the admission of women fellows. Much of what is said in that article would apply equally well to the Geological Society.

On May 15, 1907, the council proposed a new bye-law for the admission of women as "associates." There is no authority in the charter for the admission of associates, whether women or men; and the proposition was rejected by a majority of two. The council having apparently dropped the subject, a special meeting was, on the requisition of certain fellows, held on April 1, 1908, when a resolution was proposed by Mr. E. A. Martin for the admission of women as fellows. This was defeated in favour of a motion by a member of the council that a poll be taken of all the fellows resident in the United Kingdom. The validity of such a poll having been questioned, the president (Prof. Sollas) admitted that there would be no validity in it, but said that, whatever the result might be, the council would loyally abide by it. The result of this poll was in favour of the admission of women as fellows. Subsequently, some non-resident fellows having objected to being excluded from voting, a further poll was taken of non-resident fellows, with a similar result. The votes recorded in the two polls were:—in favour of the admission of women, 439; against, 160. Of the 439, 318 were in favour of admitting women as fellows, 109 as "associates," while 12 expressed no preference. It is thus shown that there is a decided preference for the admission of women as fellows.

Notwithstanding these votes, and the statement that the council would abide by the result, the council has apparently done nothing to carry them into effect; but on February 10 a special meeting (convened by the council) was held to consider the result of the vote, but no intimation was given that any resolution would be proposed. The council put forward certain objections to the admission of women, and a motion by Dr. A. Smith Woodward, "That it is desirable, under the existing charter, to admit women to candidature for the fellowship of the society, on the same terms as men," was rejected by a majority of ten votes.

Whatever objections the council may have to the admission of women as fellows, it seems only reasonable that the fellows should have been informed before being called upon to express their wishes. By inviting them to vote, it was certainly implied that the decision of the fellows would be respected.

During the past twenty years there have been many able papers contributed by lady geologists, and the fellows have expressed a wish that women should now be admitted to the society on the same terms as men. By rejecting the wishes of the fellows, the council is acting, not only unjustly to lady geologists, but is ignoring the expression of opinion which the council itself invited.

Hythe, February 20.

W. J. ATKINSON.

Stone Circles in Ireland.

IN his paper, "Who built the British Stone Circles?" read at the Dublin meeting of the British Association (NATURE, December 24, 1908, vol. lxxix., p. 236), Mr. J. Gray says he believes there are few, if any, such stone circles in Ireland. The accompanying photograph shows

Stone Circle, Culdaff, Co. Donegal.

one at Culdaff (river, bay, and village of the same name), on the north coast of County Donegal.

Only a few of the stones are now standing. Some have fallen down, others have been taken for building or other purposes; enough, however, still remain to show the form of the circle. Beyond it, on the eastern side, lie several blocks in two diverging rows. A short distance away there is a double-chambered structure of upright slabs, once covered by a mound, which, many years ago, was carted away and spread over the farm by a former tenant.

W. E. HART.

Kilderry, Londonderry, February 15.