The present vegetation of this plateau site is Calluna, well scattered with ill-grown *Erica tetralix*, pervaded with dwarf *Molinia cœrulia* and a scatter of *Agrostis setacea*, all short of stature. Its modern profile, while podsolic, is unorthodox and not comparable with the ancient clear-cut and well-developed podsol beneath the tumulus, or of the sods at its core. It presents anomalous features as to which, since my war-time circumstances denied facilities for the necessary analyses, I cannot be at all particular. The differences most apparent to the eye are first, that the surface peat, A_0, is but $\frac{1}{2}$–$\frac{3}{4}$ in. thick instead of 1–2$\frac{1}{2}$ in., and secondly, in place of a well-marked pale bleached layer it has for A_1 an inch or two of black humic sand next below, passing fairly sharply into a dull medium yellow pebbly sand. To-day, therefore, it would not be possible to duplicate the sod-core of the tumulus within any reasonable carrying distance. One deduces that the ancient podsol profile has been robbed of its A_0 and A_1 horizons, and maybe of its B horizon during the thirty or so centuries of human occupation. The periodic heather burnings to freshen the grazing, and the now vanishing local manner of paring thin surface peats for domestic fuel, are probably responsible.

I agree with Robinson's conclusion that we have here a range of formerly mature podsols, mainly truncated through man's activities in the human era, and now in various phases of immaturity, undergoing regrading of a podsolic character.

A similar tumulus from a southern New Forest parish presented a different question in that the present conditions of the surroundings are of a moist heath with impeded drainage and gleyed subsoils of variable character, even more in contrast to the clear-cut podsol profile suggested by the sod-core, and the old soil-line beneath the tumulus. The original bottom of its surrounding ditch proved on excavation to be considerably below the present water-table of the site. The subsidence which flooded the vales of the Solent and Spithead rivers and made Wight into an island is believed to have occurred in middle or later Bronze Age times, so it may be that earth movements or minor foldings related to that subsidence are responsible for this revolution in drainage conditions.

If a district by comparison so lightly pressed by the hand of man can present profile immaturity problems of this degree, how much more complex the undeciphered sequence of partial regradings confronting the pedologist in the soils of farming England with their history of transformations: from forest cover to open-field manor, from this to grass at the Black Death, thence to enclosed arable for the Napoleonic War, and so on. This profile immaturity due to centuries of relatively dense human occupation and changing land-utilization seldom receives adequate allowance in considering the late start and the difficult progress of pedological survey in Great Britain.

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A Modified Calomel Cell for *p*H Measurements

THE present shortage of potassium makes it necessary that chemists should take every care that there is no undue waste of this material, and it seems to us that with the large number of workers using the saturated calomel electrode[1] for making *p*H measurements, there must be a considerable loss of potassium chloride resulting from the frequent flushing of the liquid junction. The use of normal and decinormal potassium chloride cells would do much to avoid this waste, but they are neither so quickly prepared nor is the conductance of the cells so good as that of the saturated type.

We have experimented with a saturated calomel cell in which the potassium chloride has been replaced by sodium chloride, and it was found that well-defined potentials are obtained. The potential of the sodium chloride type of cell referred to the normal hydrogen electrode is a little lower than the potassium chloride cell, but there is not likely to be any inconvenience arising from this difference.

Saturated sodium chloride cells were made up by us and tested independently against saturated calomel cells of the conventional type. The sodium chloride cell had a potential of 245·8 mv. at 20° C.

It is well appreciated that for precise work in physical chemistry the potassium chloride cell is better, but there must be many hundreds of workers making routine *p*H measurements of a lower standard of accuracy where slight errors due to the difference in ionic mobilities are unimportant; further, there is the saving of potassium chloride and also of expense.

Further work on the potential and the temperature coefficient of the cell is being undertaken to assess the value of this cell for more precise work.

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[1] Clark, W. H., "The Determination of Hydrogen Ions", 3rd ed. (Baltimore: Williams and Wilkins Co., 1928).

Newton and the Apple

IN my recent address on Newton to the Royal Society, a version of which was published in NATURE of December 19, I stated that the story of the apple first appeared in the second edition of Voltaire's "Elémens de la Philosophie de Neuton", printed in 1741. The point which I had in mind was that the story is not given in the first edition of that book, which appeared in 1738.

Mr. Arthur Hawkes, borough librarian of Wigan, who organized the effective Newton exhibition recently held in that town, has written to me pointing out that the story was printed by Voltaire in 1733, in his "Lettres sur les Anglais", which appeared in an English version in the same year. The point seems of sufficient interest to warrant this note. The publication by Voltaire in 1733 makes the omission in the first edition of the "Elémens" still stranger.

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