One of the transformed clones, *N*, was chosen for comparison with the normal clone in respect of its electrophoretic behaviour after treatment with bacterial neuraminidase. The results of two experiments are given in Table 3.

Table 3

Clone	Mobility before enzyme treatment	Mobility after enzyme treatment
*C*13	− 1·00 ± 0·05	− 0·67 ± 0·05
	− 0·97 ± 0·06	− 0·64 ± 0·05
N	− 1·30 ± 0·06	− 0·65 ± 0·06
	− 1·27 ± 0·05	− 0·65 ± 0·05

These present fairly clear-cut evidence that the enhanced mobility of clone *N* may be attributed to an increased surface concentration of sialic acid residues. After enzyme treatment the normal and transformed cell suspensions are quite indistinguishable by the microelectrophoretic technique. Recently, Defendi and Gasic[3] have shown that transformed cells from populations comparable to those used in these investigations have an enhanced peripheral Hale-staining reaction and that this positive reaction may be destroyed by treatment with neuraminidase. These observations lend support to the foregoing interpretation of the electrophoretic data.

These results raise an interesting problem with respect to the relation between cell surface charge density and the social interaction of cells in culture. All the clones examined in this investigation, whether of Type 1 or 2, were originally described as transformed on the basis of their colonial appearance when grown in Petri dishes from single cells, and some of the clones of each type were afterwards tested and found to be transplantable. The morphology is indistinguishable from that displayed by cells derived from sarcomata produced *in vivo* by inoculation of baby hamsters with polyoma virus, and is typified by marked loss of contact inhibition resulting in a randomly oriented growth of the cells.

This criterion applied for cells with both normal and increased mobility. The relationship between the surface charge density of a cell membrane and its ability to form stable cell–cell contacts is thus, in this system, uncertain. However, more detailed estimation of all the types of charge grouping at the cell surface may reveal a systematic change, in one or more components of the charge matrix, which is at present concealed. Moreover, it must be borne in mind that cell electrophoresis is essentially an averaging procedure leading to a mean value for the surface charge of a cell rounded up in suspension. Large differences in character of a small percentage of the surface would not affect the overall electrophoretic behaviour of the cell. Such differences might well exist, for example, at the tips of the pseudopods of cells attached to a substratum.

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Use of the Term 'Base Rich' in Ecology

During investigations on the autecology of some mire carices, it was necessary to prepare a range of culture solutions with widely varying calcium contents. The culture solution used was full-strength Long Ashton basic formula[1], minus the calcium nitrate, bulked with the required quantities of either calcium chloride or calcium nitrate. On measuring the *p*H of the resultant solutions (see Table 1) the fallaciousness of the term 'base rich', as applied to natural waters by ecologists, was made painfully obvious. We had indeed produced what ecologically would have been termed a base rich water with a remarkably low *p*H, a paradox, be it in ecological or chemical terminology.

The paradox arises simply through the misuse of the term 'base'. As pointed out by Robinson[2], the cations Ca^{++}, Mg^{++}, Na^{+} and K^{+} for so long regarded as the 'biological bases' are indeed not bases in the chemical sense of the word[3].

Table 1

Ca (m.equiv./l.)	*p*H $CaCl_2$	*p*H $Ca(NO_3)_2$
0·025	3·95	3·9
2·50	3·9	3·9
10·00	3·8	3·9

Table 2. (All results except *p*H in m.equiv./l.)

	HCO_3^-	Cl^-	SO_4^{--}	Ca^{++}	Mg^{++}	Na^{+}	K^{+}	*p*H
Hartland, Dorset	0	2·43	2·49	0·85	1·64	2·14	0·11	3·60
Oak Mere, Cheshire	0	0·49	1·37	0·34	0·14	0·44	0·13	3·10
Seroki Bor., Poland (ref. 4)	0·14	0·07	0·13	0·08	0·01	0·11	0·07	6·35

If the term 'base rich' is to be used, it must be related to a certain fixed minimum in the absolute concentration of the bicarbonate ion, which is the strongest base found in any abundance in natural waters.

Table 2 gives some examples of natural waters which amplify the difficulties of applying the original terminology.

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ENTOMOLOGY

Effect of (2-Chloroethyl) Trimethylammonium Chloride on the Rate of Increase of the Cabbage Aphid (*Brevicoryne brassicae* (L.))

Aphids are among those plant-feeding insects which are closely adapted to their hosts. It is, therefore, not surprising that even slight variations in the growth and physiology of host-plants may have quite marked effects on aphids feeding on them. Some such effects of plant growth and senescence, water relations and varietal resistance have been described by Kennedy[1]. For the same reason, interesting results can be expected from experiments involving plants treated with growth regulators. Robinson[2-4] studied a whole series of herbicides and growth regulators, and reported reduced fecundity in some instances. The present paper is a preliminary account of the effects of aphids of 'Cycocel' ((2-chloroethyl) trimethylammonium chloride), a compound causing a retardation in plant growth and used in the United States for producing pot poinsettias of marketable height