Fig. 1 of my communication showed in plan a potato shoot apex in which a small lateral panel *a* had been isolated from the remainder of the apical meristem *A* by a single vertical incision which penetrated all the meristematic cell layers and just into the differentiating sub-apical region. On further growth of such shoots the panel *a* usually failed to regenerate, remaining totally inhibited, although its cells retained their embryonic appearance. The incision was considered to prevent direct hormonal inhibition of the panel *a* by the larger part of the apical meristem; but the two separated parts of the apical meristem would still be able to compete with one another for a share of the available nutrients in the sub-apical region. The further growth of each would be a measure of its ability to grow under such conditions of competition. The results have been described (*loc. cit.*).

In support of this hypothesis, further experiments in which the incision was 4–5 mm. deep were carried out. Such incisions penetrated deeply into the maturing zone of the shoot, where nutrients may be expected to be localized in the vascular tissue. In such shoots the sub-apical nutritional competition between the separated parts of the apical meristem is eliminated, but it is still possible for substances to pass downwards in the stem from *A*, below the incision, and upwards into the panel *a*, that is, hormonal correlative inhibition of the panel *a* would still be possible.

Three types of deep incisions were made: (1) vertical, (2) undercutting the panel *a*, (3) undercutting the remainder of the apical meristem *A*. By such sloping incisions it was possible to provide either of the separated parts of the meristem with increased amounts of nutrients derived from a greater relative area of the mature shoot.

In each treatment eight shoots were used, and the cut surfaces were prevented from regrafting by placing a fragment of mica in each incision. The average number of leaves on the lateral panel *a* and the main apex *A* in each treatment after six days is presented in summary form in the accompanying table.

(1) Incision vertical		(2) Incision undercutting *a*		(3) Incision undercutting *A*	
a	*A*	*a*	*A*	*a*	*A*
2·9	4·3	0·4	3·9	2·9	1·5

In treatment 1, all eight of the lateral panels *a* regenerated completely, and the results obtained with a deep incision thus differ sharply from those following a shallow incision when regeneration is infrequent. In treatment 2, the strongly growing main apex *A* of several shoots was excised after six days, leaving only the inhibited panel *a*, which then usually began to grow and formed two to three leaves in the following six days. In treatment 3 it is noteworthy that the growth of the larger meristematic region *A* has been 'inhibited' by the smaller panel *a*.

In these treatments the more rapidly growing meristem became considerably enlarged, even if it was initially very small, and gave rise to leaves which were much larger than those on the slow-growing shoot. As a result of these experiments it is felt that the inhibition of growth in lateral parts of the apical meristem is achieved in large part by a depletion of nutrients in the immediate vicinity of the inhibited meristems. Growth hormones may well be of importance in such inhibition but would appear to have an indirect effect, perhaps acting in the mobilization of nutrients towards the more actively growing regions of the meristem.

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[1] Sussex, I. M., *Nature*, **170**, 755 (1952).

Amœba discoides recorded for Milngavie, Dunbartonshire

The inoculation material for our stock cultures of *Amœba* at Notre Dame was procured either from Killarney or Milngavie. From the outset each culture was numbered and its subsequent history entered in a field-book, so that we know the origin and history of any material given to the various universities and schools which have asked for it during the past thirty years. Early on, it was suspected that culture 14 was different from the other cultures, but many researches were pressing, and I had not time to look into the matter. The culture accumulated and sub-cultures were made. In 1949 and 1950 I devoted time to the examination of the cytoplasmic movements of the individual amœbæ and concluded that they were not those characteristic of *A. proteus*. In 1952 I completed the investigation. The creatures in culture 14 are *Amœba discoides*, the life-history of which has been worked out by Sister Carmela Hayes[1]. Up to date, the species has been recorded from the neighbourhood of Oxford and Grimsby.

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[1] *Quart. J. Micro. Sci.*, **80**, 459 (1946).

Flight-tone and Wing-stroke Frequency of Insects

In his interesting article, Dr. O. Sotavalta[1] discusses the estimation of the wing-stroke frequency of insects by their audible note. This method is older than he suggests. ". . . and I took coach, having first discoursed with Mr. Hooke a little, whom we met in the streete, about the nature of sounds, and he did make me understand the nature of musicall sounds made by strings, mighty prettily; and told me that having come to a certain number of vibrations proper to make any tone, he is able to tell how many strokes a fly makes with her wings (those flies that hum in their flying) by the note that it answers to in musique during their flying. That, I suppose, is a little too refined; but his discourse in general of sound was mighty fine." (Samuel Pepys, August 8, 1666.)

Doubtless Pepys would have been pleased to know that his criticism had been met.

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[1] Sotavalta, O., *Nature*, **170**, 1057 (1952).