Die Potentialänderungen pflanzen sich mit abnehmender Intensität über die ganze Zelle fort, auch über tote Stellen. Ein ungleichzeitiger Beginn der Potentialänderung an den verschiedenen Ableitungsstellen ist aus den reproduzierten Kurven nicht zu entnehmen. Möglicherweise bewirkt das Anschneiden der stark turgeszenten Zellen direkt mechanisch eine Schädigung des ganzen Plasmaschlauches. (Über die Verhältnisse beim Anschneiden von *Chara*-Zellen siehe auch L. Jost, Sitzber. d. Heidelberger Akad. d. Wiss., math.-nat. Klasse, Abhandl. **13**, 1927, Ref. Protoplasma **4**, 315).

Umrath (Graz).

Mayer, A. et **Plantefol, L., "Le pouvoir hydrogenant des tissus des vegetaux".** Annales de Physiol. et de Physico-Chim. Biol. IV/2, 297, 1928.

In this paper the authors make mushes of plant tissues under different conditions and by placing them in contact with dyes whose potentials are approximately known, attempt to deduce the rH of the plant cells. Four of the dyes (2·6-dibromophenolindophenol, LAUTH's violet, methylene blue, and indigocarmine) had been measured electrometrically by CLARK and his collaborators, two (Neutral red and Janus green) by RAPKINE and WURMSER, and one (Phenosafranine) by AUBEL, GENEVOIS and WURMSER. Among the plant tissues examined were the lemon, orange, grape, apple, banana, cocoanut, beetroot, potato, turnip, onion, endive, and a mushroom. In air the whole tissues always had an rH above 18. Next the soluble constituents, obtained by using the press-juice from the material, were tried, and it was found that the results as regards rH were the same, but that if the tissues were compared by titration against the dyes, the onion would decolorise not more than 4 drops of a standard dye solution and the lemon between 120 and 150. Everything occurs, it would seem, as if there was a reserve of hydrogen donators varying in amount with the plant and sometimes more readily accessible than at others. Some of the tissues were poised, in fact. more than others.

Whole mushes were also examined in vacuo and it was found that while some tissues (lemon and orange) did not show an increased reducing power anaerobically, others (such as the grape) did do so to a small extent, and others again (such as the banana) augmented very notably. This is reminiscent of the results of CANNAN, CLARK and COHEN with bacterial suspensions, and of CHAMBERS, COHEN and REZNIKOV, with protozoa. Much the same results were produced when the press-juice of each tissue was examined anaerobically. MAYER and PLANTEFOL consider that not only does the rH of the cells diminish on anaerobiosis, but also that the amount of reducing substances is then increased. In general the rH was 19—20 in air and 14—16 in vacuo.

JOSEPH NEEDHAM and DOROTHY NEEDHAM (Cambridge).

Morávek, Vl., O permeabilitě iontu draselného a vápenatého. — The Permeability of the Potassium — and of the Calcium-Ions. Sborník přírodovědecký, Praha **1**, 66—71, 1925. (Czech with english summary.)

Caulerpa prolifera wurde in Seewasser, dem verschiedene Mengen von $CaCl_2$ zugegeben wurden, übertragen. Schon in etwa 16 Minuten wird das Gleichgewicht zwischen der Pflanze und der Außenlösung erreicht. Die Analysen des Wassers ergaben, daß um so weniger Kalium in die Zelle durchgedrungen ist, je mehr Kalzium zugegeben wurde. Wenn die Kalziumkonzentration um mehr als 32 % erhöht wurde, begann die Exosmose von K.