Das Hindernis von Epithel und Endothel ist in diesem Falle ein weit geringeres. Es besteht also für Chlor eine irreziproke Permeabilität der Hornhaut. Die gerichtete Durchlässigkeit geht verloren, wenn die Hornhaut quillt. Zum Schluß wird auf die gute Übereinstimmung dieser Versuche an der Hornhaut des lebenden Tieres mit jenen des Ref. an der überlebenden Froschhaut hingewiesen (siehe das Sammelref. in dieser Zeitschrift **2**, 602—629).

Wertheimer (Halle).

Rapkine, Louis, Le potentiel de reduction et les oxydations. Comptes Rendus de la Soc. de Biol., vol. 96, p. 1280, 1927.

The author discusses the dehydrogenation theory of biological oxidations (Wieland) in relation to the activation of molecular oxygen theory (Warburg).

The rH of the blastocoele cavity of the sea-urchin embryo was determined by micro-injection of the appropriate indicators, and found to be quite constant throughout development at about 19. This is obviously lower than the rH corresponding to equilibrium between hydrogen and oxygen in water vapour, namely, rH 28. The indicator, when introduced into the blastocoele liquid, comes rapidly into equilibrium with the hydrogen donators, and so is reduced, but this is not the case with the oxygen entering the cavity from the outside. The author therefore suggests that this is a case in which the activation of free oxygen is proceeding simultaneously with the mobilisation of hydrogen, but very much slower. This hypothesis would explain the results obtained by Rapkine and Wurmser and by M. M. Brooks upon plant protoplasm.

D. Needham and J. Needham (Cambridge).

Joyet-Lavergne, Ph., Sur les charactères physicochimiques de la sexualité dans les spores d'Equisetum. Comptes Rendus de la Soc. de Biol., vol. 96, p. 1217, 1927.

The author, extending his researches from Equisetum arvense and limosum to maximum, finds that there also the female spore protoplasm has a lower rH than the male spore protoplasm. This conclusion is, however, only supported by vital staining experiments using safranine, neutral red and violet janus green, methylene blue, cresyl blue, thionine, silver acetate and gold chloride. The male spores give an intenser peroxidase reaction than the female ones, but the latter are richer in reduced glutathione than the former (estimation method not specified). Data are given concerning the relative preponderance of male and female spores and the size of each kind.

D. Needham and J. Needham (Cambridge).

(1) **Sakamura, Tetsu, Weitere Studien über die moderierende Rolle der organischen Salze und des Phosphats bei der Kultur von Aspergillus niger.** Japan. Journ. of Bot. **3**, 245—265, 1927 (2 Fig.).

(2) **Loo, Tsung-Lê, On the mutual effects between the plant growth and the change of reaction of the nutrient solution with ammonia salts as the source of nitrogen.** Ibid. **3**, 163—203 (5 Fig.).

Sakamura (1) vertieft seine früheren Untersuchungen (s. Protoplasma **1**, 154, 157) in der von Ref. gewünschten Richtung eines strengeren Nachweises der Bedeutung organischer Salze der Nährlösung als Puffer. Ohne die Bedeutung der moderativen Abschwächung der C_H der Kulturlösung übersehen zu wollen, ist dennoch nach dem heutigen Stande der Erfahrungen