5984

Models Showing Accumulation.

W. J. V. OSTERHOUT AND W. M. STANLEY.

From the Laboratories of the Rockefeller Institute for Medical Research.

Models consisting of a non-aqueous layer separating 2 aqueous solutions (the inner being more acid than the outer) show the following points of resemblance to *Valonia:*

(1) Penetration from the outer into the inner aqueous solution (artificial sap) is in the following order $K > Na > Mg > Ca$. Also $Cl > SO_4$.

(2) Instead of equilibrium a steady state is reached in which the artificial cell "sap" increases in volume but remains approximately constant in composition.

(3) Osmotic pressure and K-concentration become greater inside than outside.

(4) In certain models the "sap" contains CO_2. As potassium enters and $KHCO_3$ is formed the osmotic pressure rises. Although CO_2 is regarded as a waste product in organisms it acts in this case to increase the energy stored in the cell.

5985

Anginal Syndrome Induced by Gradual General Anoxemia.

MARCUS A. ROTHSCHILD AND MILTON KISSIN.

From the Medical Service and the Department of Laboratories of Beth Israel Hospital, New York.

With individuals subject to attacks of chest pain, in whom there is no evidence by physical or electrocardiographic examination of myocardial (coronary) disease, it is often difficult to be certain of the origin of the pain. We wished to distinguish between those with pain due to impaired coronary circulation, and those in whom the pain arose otherwise. It occurred to us that if one were to produce a general anoxemia, and, therefore a local cardiac anoxemia, there might appear differentiating responses in these 2 groups.

By means of rebreathing, we were able to produce a state of general anoxemia in human subjects. The carbon dioxide was absorbed. It usually took about 10 minutes for the oxygen to become so low that the patient became uncomfortable.