$\frac{\text{volume of bubble}}{\text{diameter of orifice}}$ of 0·19 cm. with all except the smallest two orifices, of diameter 0·0131 and 0·020 cm. As soon as the rate of formation of individual bubbles increased to the point where they could no longer be observed to cling momentarily to the orifice, the value of this ratio rose to about 0·26 cm. We believe that it was this effect which prevented observation of the value of 0·19 cm. with the smallest two orifices. This value of 0·19 cm. is very close to that reported by Coppock and Meiklejohn[2] for very slow rates of bubble formation in homogeneous liquids or mixtures of liquids.

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[1] *Trans. Inst. Chem. Eng.*, **28**, 14 (1950).
[2] *Trans. Inst. Chem. Eng.*, **29**, 75 (1951).

Oblique Reflexion of Radio Waves by Way of a Triangular Path

Fig. 1 is a vertical incidence record from Baker Lake Ionospheric Station, July 19, 1949, 7.30 a.m. C.S.T. It shows, in addition to the regular $h'f$ sweep, a pair of traces due to propagation by means of a triangular path as illustrated in Fig. 2.

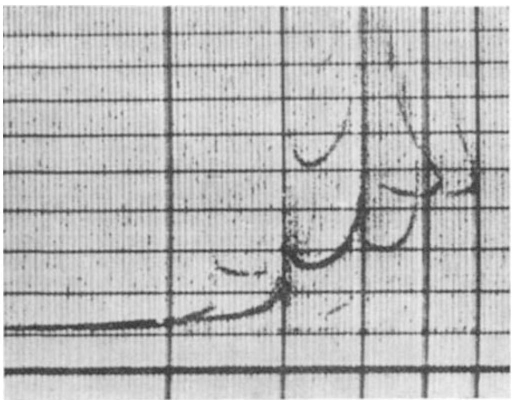

Fig. 1. Vertical incidence record, Baker Lake, July 19, 1949, 7.30 a.m. C.S.T.

Assuming the traces to have been scattered off an E_s cloud at about 110 km. height, the path-length indicates transmission to the F-region at an angle of elevation of 51°. The horizontal distance of the cloud from the station was found to be 325 km. The angle of transmission was checked by finding the ratio of the maximum frequency reflected vertically to that reflected obliquely. The same angle of transmission was obtained.

A series of records at 15-sec. intervals was made at the same station on the morning of September 6, 1950. Similar oblique traces were observed, starting at transmission angles of the order of 45° and moving into the vertical sweep and out again. Assuming these traces to be due to horizontally moving clouds

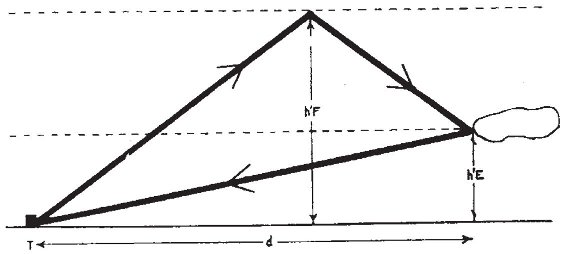

Fig. 2. Oblique reflexion of a triangular path

of E_s, it was possible to calculate their motion at about 330 km. an hour. This is somewhat less than the speeds observed previously on straight oblique returns.

No continuous E_s traces were observed during this period; but as a trace moved into the vertical incidence sweep, a flash from the E_s cloud was sometimes seen.

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Blood Glycolysis during the Alarm Reaction

It is well known that characteristic alterations of the blood sugar occur during the alarm reaction[1]. We thought it interesting to make a closer examination of the carbohydrate metabolism in the course of the alarm reaction. We have investigated the blood glycolysis; this seems particularly suitable for the purpose, because the erythrocytes have *in vitro* a very low consumption of oxygen[2], while they display active processes of anaerobic glycolysis like those that occur in muscular tissue[3].

For our experiments we used albino rabbits of about two kilograms weight. We determined the quantity of sugar in a certain quantity of blood (about 4 ml.) taken from the jugular and which had been previously defibrinated and submitted to continuous shaking in a bath at 37° C. before, and one hour after, incubation; the quantity of glucose consumed was a measure of the intensity of the glycolysis. At different intervals after exposure to stress, we determined the glycolytic power of fresh quantities of the rabbit's blood. The substances used for producing stress were: 4 per cent formaldehyde, 5 ml./kgm., by subcutaneous injection; colchicine, 2 mgm./kgm., by subcutaneous injection; 95 per cent alcohol, 2 ml./kgm., by intraperitoneal injection.

During the alarm reaction, we found that the amount of glycolysis changed with the phase: an initial accentuation, then a depression, and a final reversion to the normal state during the countershock phase. The glycæmia produced presented similar changes. The intensity of glycolysis, from the average normal rate of 200 mgm. per 1,000 ml. of blood per hour, can reach, in the phase of excitement, 350–400 mgm. per 1,000 ml. of blood per hour, and fall in the depression phase to 40–50 mgm. per 1,000 ml. of blood per hour.

The phenomena of depression of both glycolysis and glycæmia are most pronounced in very strong stresses, whereas the phenomena of excitement are