

Distribution of the Chemical Elements.—Geochemists have calculated the percentage by weight of the different elements in the known crust of the earth, including the rocks, water, and atmosphere. INGO W. D. HACKH (*Science Progress*, 1920, xiv, 602–607) has used these figures as the basis of his calculations. If the per cent. of each element, which is present, be divided by its atomic weight, the quotient shows the relative proportion of its atoms in the crust. Of the 25 elements, whose atoms are most abundant, those of bromine are least abundant; and the relative proportion of bromine atoms was therefore taken as unity; the other elements then fell into the following order of magnitude with respect to the occurrence of their atoms:

O.... 249,850	Mg ... 6,835	Ti 714	N 171	V..... 23
H.... 75,312	Ca.... 6,422	Cl..... 451	Mn..... 116	Li..... 22
Si.... 72,860	Fe.... 5,982	F..... 421	Ba..... 46	Sr..... 16
Al.... 21,528	K..... 4,660	P..... 283	Cr..... 46	Zr..... 13
Na... 8,200	C..... 1,199	S..... 274	Ni..... 26	Br..... 1

Hydrogen thus follows directly after oxygen with respect to the relative occurrence of its atoms.

J. S. H.

The Dissipation of Heat by Various Surfaces in Still Air. T. S. TAYLOR. (*Phys. Rev.*, March, 1920.)—Three vessels of sheet tin, 10 cm. in diameter and 50 cm. long, were made. One was left bare, one was covered closely with sheet asbestos 0.33 mm. thick and the third was covered loosely with the same material. All three were filled with hot water and allowed to cool under similar conditions. The result was obtained that the bare vessel lost only 70 per cent. as much heat per minute as the loosely covered one and 63 per cent. as much as the tightly covered vessel. The effect of dusting the surface with coal ashes was to slightly increase the radiation from the bare surface and to diminish to a somewhat greater extent the loss from the tightly covered vessel.

G. F. S.

Variation of Transparency to Total Radiation with Temperature of Source. S. L. BROWN. (*Phys. Rev.*, March, 1920, p. 217.)—Glass, rock salt, mica, celluloid and paraffin were examined. In all the transparency for total radiation increased markedly as the temperature of the radiating body rose from 200° to 1200° C. For glass the amount transmitted at the lower temperature was 5.8 per cent. and at the higher 61 per cent. For rock salt the corresponding numbers are 35 and 50.5. Glass alone shows a departure from the general rule by having a minimum transmission at 300°. Whether heated or cooled from this temperature its transmission increases.

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