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? WHY THE WEATHER ?

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ARTIFICIAL ATMOSPHERES

Carbon, the principal food of plants, is derived from the relatively small amounts of carbon dioxide in the atmosphere, normally averaging about 0.03 per cent. of the latter. More than a century ago De Saussure showed that green plants can use more than the normal amount of this gas, when it is available, and in recent years this fact has been turned to practical account. In Germany, during the world war, one expedient for increasing the food supply was to scrub gases from the combustion of coal, coke and charcoal to produce carbon dioxide, which was piped into greenhouses among growing plants and also to some extent among sugar beets in open fields. The gas is heavier than air, and where there is little wind will remain long enough among the plants to be partially absorbed by them. A marked increase in the yield of crops can be obtained by this process, which has lately come into rather widespread use in Germany.

The analogous idea of altering the chemical composition of the atmosphere in order to produce beneficial effects on animal life has not advanced so far in a practical direction but has been/subject of a good many experiments. That animals can exist in atmospheres radically different in composition from that supplied by nature was proved as long/ago as the year 1873 by Prof. Elihu Thomson, who kept a cat alive in a mixture of four parts by volume of hydrogen to one of oxygen. It appears that Thomson was also the first person to suggest the plan, lately developed by the U.S. Bureau of Mines, of supplying an atmosphere of oxygen and helium to divers and caisson workers, in order to shorten the time they must spend in the decompression chamber. The latest experiments with "synthetic" atmospheres for breathing are those of Prof. J. Willard Hershey, who finds some evidence that an atmosphere consisting of one-fourth oxygen and three-fourths argon is more invigorating than normal air.

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