PHYSICS—METEOROLOGY

Weather Reports of Future May Predict Ozone Amount

Would Be of Interest to Sun-Bathers, Physicians And Farmers, For Ozone Screens Out Ultraviolet

IN THE weather reports of a few years hence there may be a line running something like this:

"Ultraviolet radiation increasing due to less ozone in the upper atmosphere; sun-bathers should expose themselves with care."

Predictions and records of ozone promise to be important not only to bathers exposed to sunshine but to physicians who use sunlight as medicine, farmers whose crops are influenced by sun energy, weather experts who must make forecasts and others.

To the American Association for the Advancement of Science, Dr. Brian O'Brien of the University of Rochester announced a new instrument that measures and records the ozone in the upper atmosphere. It may soon be standard equipment in weather stations in various parts of the world.

Ozone is oxygen in very active form and a very little of it has vast influence on the quality of the solar radiation that gets to the earth's surface. If all of it were eliminated from the air, all of us on the earth would be killed in a short time, so powerful would be the ultraviolet radiation that would be allowed to come to earth.

Yet all of the ozone in the earth's atmospheric blanket, situated mostly at an altitude of 25 miles, would be sufficient to make a layer only two millimeters thick, about the thickness of two ordinary pencil leads.

The ozone absorbs part of the solar radiation, the invisible ultraviolet area of the spectrum that lies in the neighborhood of Angstrom units.

While it was assumed in early researches that the ozone was more or less constant in amount, new work indicates that it may vary from day to day and year to year.

There may be clouds of ozone analogous to the clouds we see in the sky. These may affect weather and knowledge of them may help the accuracy of weather predictions in the future.

The intensity of the ultraviolet light is known to vary with the solar cycle, with more getting through to earth when sunspots are more numerous. Since we are now at about the peak of the sunspot cycle or a bit past it, bathers probably should expose themselves to the sun with greater care now than was necessary some years ago.

Dr. O'Brien's ozone recorder measures the ultraviolet light, charts it upon motion picture film and allows a continuous record of the changes in the ozone layer in this way. Since it costs only about $2,000 there is hope that these instruments can be scattered over the world at principal weather stations.

Science News Letter, July 16, 1938

VEST-POCKET LABORATORY

Microchemistry, a new branch of chemistry, makes use of tiny apparatus such as can be carried in the palm of the researcher's hand, for carrying out exact analysis of exceedingly small amounts of hard-to-get organic chemicals. This beaker, funnel, porcelain crucible and flask duplicate almost exactly their big brothers on laboratory shelves throughout the world. The photograph was made in the laboratories of Westinghouse.

DOCUMENTATION

Preserving Business Files Called Useful to History

THOSE files of orders, business letters, ledger accounts and other business records of yesteryear are being eyed jealously by a rather new kind of historian. There is a campaign on to persuade business men that some of their records should be kept as archives that will help them conduct their activities on a long-time basis.

Wholesale destruction of business records only a few years old is deplored by Dr. Ralph M. Hower, executive secretary of the Business Historical Society. The firms themselves will benefit from the permanent preservation of selected material. Without the records, historians will be unable to assay the course of business as an important aspect of human experience. And the public at large needs to know the history of business for if it does not its ignorance may result in the destruction of institutions and practices necessary to our present civilization.

Some business men throw up their hands hopelessly when it is suggested that their growing files be preserved. Storage space is costly and the out-of-date records are needed so infrequently. But the business historians argue that if properly handled, the regular retention of useful material, together with systematic destruction of the remaining records, will not increase office expense materially. In many cases it will actually save money and make records more accessible.