A Science Service Feature

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? WHY THE WEATHER ? Mailed February 29, 1932

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MEASURING ULTRAVIOLET

Chiefly on account of its newly recognized important relations to human health, the element of climate commonly referred to as ultraviolet "sunlight" (though it is invisible and is therefore no more truly "light" than any other kind of invisible radiation) is now regularly measured at many places throughout the world. Several types of instrument are used for this purpose. One widely employed in England consists of a small quartz tube containing a standard solution of methylene-blue in acetone. This is exposed out of doors, and the solution is bleached by the action of the ultraviolet rays. The amount of bleaching is determined by comparing the exposed tube with a series of others containing graduated shades of blue, and the result is taken as a measure of the intensity of the ultraviolet radiation.

At Mount Wilson Observatory in California, the ultraviolet part of the sunbeams is isolated for measurement by passing the solar rays through a filter consisting of a sheet of quartz coated with silver. A third device, known as the photoelectric photometer, has been much used in continental Europe. The light falls upon a zinc sphere charged with negative electricity, and the sphere is discharged under the influence of the ultraviolet rays, the intensity of these rays being measured by the time necessary for a certain fall of electric potential.

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