

# NOTE ON THE DUST STORM OF NOVEMBER 13, 1933

ON the evening of Monday, November 13, 1933, a small amount of rain fell in the region around Philadelphia, accompanied by considerable amounts of fine dust. Automobiles exposed during the storm were uniformly soiled by this dust shower, and newspapers reported the condition wide-spread throughout the states of Pennsylvania and New York. Fortunately, the writer's automobile had just previously been thoroughly cleaned and, standing idle during the evening of November 13, collected a considerable quantity of this dust. The dust was carefully collected and weighed, giving 2.528 grams. The accompanying rain doubtless washed some of the dust from the car, and some of it was impossible to collect. Further, the car was partly protected by surrounding trees and buildings, so that the quantity that fell was probably at least twice the amount collected. The effective area of the car from which the dust was collected is 3.71 square meters. If it be assumed that five grams fell on this area, the rate is 1.35 grams per square meter, and if uniform over a larger area the rate is 3.86 short tons per square mile.

Microscopic examination showed that the dust is composed largely of mineral fragments, among which quartz, feldspars, calcite and biotite predominate in the order named, but including at least a dozen additional mineral species and particles of volcanic ash. Organic fragments in the form of the tests of diatoms and shreds of vegetable matter also occur. The grain sizes range from 0.0005 mm to 0.15 mm, although the greater part by weight of the material is included between grain sizes of from 0.01 to 0.1 mm.

Reference to the U. S. Weather Bureau's records for November 12 shows a marked barometric depression centering over the North Central States, on the western side of which, throughout Kansas, Nebraska, North and South Dakota, and north into Canada, strong northwest winds were blowing into the depression with velocities of from 30 to 50 miles an hour. These velocities were maintained by west and northwest winds during November 13 across the Central States, as the depression moved eastward, reaching the Atlantic Seaboard about 10 P. M. on November 13.

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## REPORTS

### THE ELLA SACHS PLOTZ FOUNDATION FOR THE ADVANCEMENT OF SCIENTIFIC INVESTIGATION

DURING the tenth year of the Ella Sachs Plotz Foundation for the Advancement of Scientific Investigation, one hundred and thirty-six applications for grants were received by the trustees, sixty-two of which came from thirteen different countries in Europe and Asia, the other seventy-four from the United States. The total number of grants made during this year was twenty-one, one of these being a continued annual grant. Twelve of the new grants were made to scientists outside of the United States.

Due to economic conditions and the fact that many very worthy scientists are without positions at the present time, about one third of the money appropriated this year was kept in reserve to aid these men.

In the ten years of its existence the Foundation has made two hundred grants, and investigators have been aided in Argentina, Austria, Belgium, Chile, China, Czechoslovakia, Estonia, France, Germany, Great Britain, Hungary, Italy, Latvia, Netherlands, Palestine, Poland, Portugal, Roumania, South Africa, Sweden, Switzerland, Syria and the United States.

The list of investigators and the purpose of their researches aided in the current year is as follows:

Professor E. Aubel, Paris, France, \$200 for study of the synthetic reactions of liver and their rôle in specific dynamic action.

Dr. J. Percy Baumberger, Stanford University, \$300 for research on the difference between the oxidation-reduction processes in normal and malignant cells with particular reference to lactic and pyruvic acid.

Dr. S. J. Crowe, the Johns Hopkins Hospital, \$300 for continuation of experiments on the physiology of the ear.

Professor Robert Debré, Paris, \$300 for study of tuberculin allergy.

Dr. Ehrich Engelhart, Graz, \$200 for study of the effect of transplanting anterior pituitary into rats, at the menopause, to bring back the ovarian cycle.

Professor H. Eppinger, Vienna, \$300 for work on the breakdown products of fat which produce lesions which fit in with the pathology of wounds such as liver damage, and lesions of the kidney.

Professor C. Heymans, Ghent, \$300 for continuation of researches on the circulation.

Professor Dr. Max Hochrein, Leipzig, \$300 for work on the correlation of circulation, gas exchange and vasomotor disturbances.

Dr. H. A. Krebs, Cambridge, England, \$350 for continuation of studies on the breakdown of protein in animals and on the metabolism involved in the action of insulin.

Dr. Fritz Lange and Dr. O. Bickenbach, Munich, \$300 for study of the haemodynamic action of a new apparatus for dilating blood vessels and lowering the blood pressure in animals and man.