

through the cycle of union (facilitated by any charges they may carry) and division, of coalescence and disruption, from one to many times, with the formation on each at every disruption again *according to experiment*, of a correspondingly increased electrical charge. The turmoil compels mechanical contact between the drops, whereupon the disruptive equalization of their electrical potentials breaks down their surface tensions and insures coalescence. Hence, once started, the electricity of a thunderstorm rapidly grows to a considerable maximum.

After a time the larger drops reach, here and there, places below which the updraft is small—the air can not be rushing up everywhere—and then fall as positively charged rain, because of the processes just explained. The negative electrons, in the meantime, are carried up into the higher portions of the cumulus, where they unite with the cloud particles and thereby facilitate their coalescence into negatively charged drops. Hence the heavy rain of a thunderstorm should be positively charged, as it almost always is, and the gentler portions negatively charged, which also very frequently is the case.

Such in brief is Dr. Simpson's theory of the origin of the electricity in thunderstorms, a theory that fully accounts for the facts of observation and in turn is itself abundantly supported by laboratory tests and imitative experiments.

The foregoing are only a selected few of the many recent contributions to the physics of the air, but they are sufficient, it is hoped, to show that meteorology is indeed a progressive branch of physics, and one eminently suitable to every type of scientific talent. The close observer, the clever experimentalist, and the keen analyst all can find in the phenomena of the atmosphere inexhaustible material and endless opportunities. But in science opportunity is only a synonym for duty, and of all words duty is the noblest.

W. J. HUMPHREYS

U. S. WEATHER BUREAU

## SCIENTIFIC EVENTS

### THE HISTORY OF MEDIEVAL INSTITUTIONS

PROFESSOR DAVID EUGENE SMITH, of Teachers College, Columbia University, writes:

The Société de Scolastique Médiévale, founded by M. François Picavet, professor in and secretary of the Collège de France, was changed into the Société d' Histoire Générale et Comparée des Philosophies Médiévales in 1906. This society is interested in the study of the history of dogma and religion, the history of law, the history of letters, the history of philosophy, and the history of science. Monographs have been issued in all these several lines and others are in the course of preparation.

It may seem that this is not an opportune moment for scholars to be considering such a line of work. Upon this point a letter from M. Picavet, written just before the armistice, has this to say: "En ce moment où nous ne pouvons, en raison de notre âge, que faire des vœux, pour les combattants ou venir en aide aux prisonniers, aux soldats et aux évacués des pays envahis, j'ai pensé que nous pourrions nous rendre utiles en préparant les moyens de nous suffire sur le terrain scientifique et universitaire, entre nous gens de l'entente et amis de l'entente."

Few scholars have been called upon to make a greater sacrifice in this war than M. Picavet, and his determination to continue his great work in the field in which he has done so much will doubtless appeal to all scholars in this country as in Europe.

M. Picavet would be glad to hear from American scholars who are interested in the work of the society and to have their names enrolled as sympathetic with its work. If they should later become so interested as to contribute in any way to the support of the society, this would be a welcome decision; but this is not the immediate purpose. It would be a helpful act if those interested in this line of work were to write to M. François Picavet, Collège de France, Paris, expressing their interest in the society.

If America could in some way secure an endowment of \$24,000 for maintaining for ten years the chair which M. Picavet fills with such distinction in the Collège de France, a great impetus would thereby be given to this work.

### ACTIVITY OF KILAUEA VOLCANO

PROFESSOR VAUGHAN MACCAUGHEY, of the College of Hawaii, Honolulu, writes under date of January 22: