

physiographic contribution of so great possible interpretative value as "Block Mountains in New Zealand" be rendered almost useless to the student of earth history by the deliberate omission of all reference to geologic dates? Surely the incidental mention of the geologic age of the weak over-mass described by Cotton, and of any other events whose geologic dating may have been known, would not have impaired the geographic value of the paper.

By all means let us eliminate unnecessary and irrelevant geologic detail from geographic or physiographic descriptions, but let us not go to the extreme of rendering our geomorphologic studies valueless for their important interpretative functions.

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**REMOVING INSECTS FROM GREENHOUSE
PLANTS WITHOUT SPRAYING AND
WITHOUT INJURY TO THE
PLANTS**

WHEN one is running experiments in the greenhouse and the plants become infested with insects, the disposal of the pests becomes an important question. This question becomes all the more important if the nature of the investigation will not permit the plants to be sprayed. The writers were recently faced with such a problem and solved it by using an apparatus working on the principle of a vacuum cleaner.

A flask was fitted with connections similar to those of a wash bottle, the mouthpiece being connected with a suction pump by a piece of tubing sufficiently long to allow the flask to be moved to any point desired. The nozzle was extended to a point parallel with the bottom of the flask and the opening made sufficiently small to just allow the desired insects to pass readily. By putting a small amount of oil in the flask, for an insecticide, closing the connections and turning on the pump, the apparatus was ready for use. Small plants that were thickly covered with aphids and red spiders were quickly cleaned. Ants and other insects were also readily taken up. It is possible that this apparatus may be modi-

fied to meet many requirements by simply changing the size and shape of the nozzle, and by using various kinds of motors and pumps.

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SCIENTIFIC BOOKS

The Electron, Its Isolation and Measurement and the Determination of Some of Its Properties. By R. A. MILLIKAN. University of Chicago Press.

This volume of 260 pages contains an account of the work on the exact determination of the electronic charge and allied subjects done by Professor Millikan and his pupils during the last ten years. It also contains an account of the earlier researches which led up to Millikan's work, and besides a short discussion of recent views on the electron theory of matter and the theory of radiation to which Millikan's exact investigations have added precision in several important ways.

The book is intended for the general reader as well as for the physicist and it will be read by both with immense enjoyment and instruction. It is written clearly and concisely and is full of most interesting and important information.

The only criticism the writer of this review has to make is that the concluding chapters are too short; they contain so much that is interesting and suggestive that one can not help wishing the writer had found time to make them as full of detail as some of the earlier chapters.

Millikan's beautiful investigations on the electronic charge and on the photo-electric effect are justly celebrated throughout the scientific world; they will undoubtedly become classical examples of the highest type of modern physical research. A description of such researches by their author is immensely valuable and will serve to stimulate scientific investigation as nothing else can.

Every student of physics, and especially every graduate student, should obtain this book and study it thoroughly and then en-