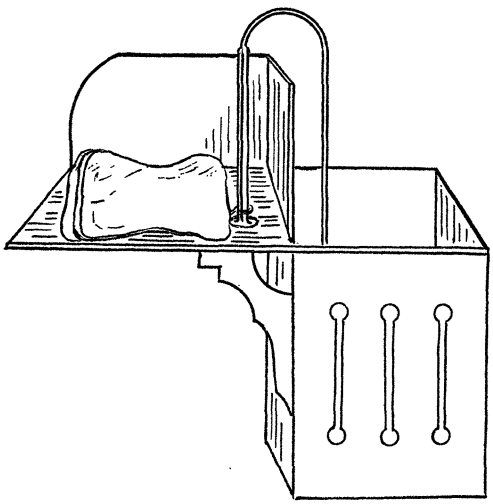
which this rod passes, so that when a towel has been used it is slipped over the rod and



allowed to drop into the basket. This rod is ordinarily held in place by a nut, but it might be provided with a lock. It would thus be impossible to remove the towels by any one not provided with a key without tearing them.

This rack has been used at the university, in its various toilet rooms, for some months with much satisfaction.

W. D. Frost

University of Wisconsin

QUOTATIONS

THOUGHT-TRANSFERENCE

A curious offer, or challenge, has been appearing recently in our columns. An unnamed inquirer asks for "satisfactory proofs of so-called thought-transference"; and, as such proofs have not been forthcoming in response to applications to "the leading authorities and writers of repute on the subject," a reward of £1,000 is now offered to any one who will furnish them. We understand those who use the expression "thought-transference" to mean by it that, under conditions at present undetermined, the physical changes underlying the thought processes of a human brain may be brought into such relations with some unknown medium of communication as to be conducted through its agency to another human brain, and to produce in the latter changes, and consequently thoughts, analogous to or identical with those preexisting in the former; the process being somewhat analogous to the communication of Hertzian waves from their source to a suitable receiver at a distance. The foundations of any such belief must manifestly rest upon the instances in which it is said that human beings, separated by distance, have been simultaneously the subjects of thought impressions of a similar or identical character, on matters important or interesting to both; and it is equally manifest that no "proof" of "transference" in such cases could possibly be given. The instances, or supposed instances, have never been examined with sufficient care by competent persons to exclude the innumerable possibilities of coincidence, and it is even doubtful whether any care which could be taken, after the alleged event, would be sufficient for the purpose, or could avoid the operation of "the myriad shafts of chance." The only conclusive proof would be by the intentional reproduction of the occurrence; and in order to accomplish this it would first be necessary to determine with scientific precision what were the conditions of success. If there can be a transference of the kind alleged, it must occur as a result of a state of things which, if its nature were precisely known, could be reproduced with certainty; but which, so long as it is uncertain or undefined must continue to elude observation and to baffle experiment. If "proof" be desired, it should be sought by endeavors to reproduce in a physical laboratory the circumstances which have given rise to the stories about thought-transference.—The London *Times*.

SCIENTIFIC BOOKS

Quantitative Mineralogical and Chemical Composition of Granites and Gneisses. By Professor T. Tchirwinsky. Moscow. 1911. 8vo. Pp. vii + 659, 4 plates.

An important work by Professor T. Tchirwinsky on the quantitative chemical and

mineralogical composition of granites and gneisses has just been issued. This tireless worker in the fields of mineralogy and petrography presents in this his latest work a very thorough study of his subject, and offers a large mass of materials derived from the best sources and supplemented by the results of his own investigations. The details are so grouped as to be easily utilized by those who may consult the volume. The importance of a correct determination of the composition of granite rocks for an understanding of the genesis of mineralogical forms in general does not need to be emphasized.

The author begins his exposition with an examination and description of the different methods used in determining the quantitative composition of rocks (pp. 11–75), a thorough understanding of the various methods being essential for the appreciation of their respective value in controlling the results arrived at by any one of them. The purely chemical methods are first described, it being shown that the investigation of the mineralogical composition of granite should begin with a determination of the quantity of magnesia present in the biotite or biotitic granite. A table on page 14 shows the differences in relative percentage of the constituents of orthoclase, albite and anorthite, as conditioned by the later and earlier computations of the atomic weight of the elements; the first column gives the figures arrived at or according to the standard of 1907, and the second and third columns the figures according to earlier standards—the third column referring to the early sixties.

The method followed by Haughton in his analyses of Leinster granite—wherein he recognized as the three principal constituents, feldspar, margarodite and quartz—and that followed by Sartorius von Waltershausen in the investigation of basalts, are given at considerable length (pp. 17–33). The author then explains the method of determination by the use of reagents and finally proceeds to a consideration of the purely mechanical methods. He gives the preference to that used by Delesse—as early as 1848—and modified and improved by later investigators.

As many of the results secured by Professor Tchirwinsky were obtained by the use of this method, we give briefly his description of it, as used by him. Upon the plate to be examined a network of points is made with ink. The interval between the single points and the width of the network are determined by the magnification to be used. The point at the upper left-hand corner is first brought to the center of the cross-threads over the object glass of a microscope, the instrument resting in a horizontal position in a Winkel or Leitz apparatus for microphotography. In place of the ground-glass disk, a disk of transparent glass is inserted in the apparatus, and a piece of tracing paper is attached to the glass with wax. Under artificial illumination of the apparatus in a dark room, a sharp, clear picture of that portion of the plate surrounding the point is projected on the paper and is traced there with a pencil. Similar minerals are designated by given letters and are afterwards cut out. The same process is followed with all the points.

More than 400 pages (pp. 77–495) are devoted to tables, arranged geographically, exhibiting the results of analyses of granites and gneisses. The various data are examined critically, and are supplemented by the results of numerous tests made by the author according to the Delesse method. These are given at great length in the case of each plate tested, with the average value. The material here assembled is very valuable and of great interest to the petrographer.

This section is followed by one presenting the conclusions drawn by the author from the material he has brought together (pp. 501–659). Here the manifold characteristics and the average chemical composition of the several minerals that appear in granite are studied, as for example the feldspars, biotite, hornblende, pyroxene, quartz, etc., and the quantitative chemical and mineralogical composition of granite, pegmatite-granite,

aplite and myrmecite are considered. It is not possible within the limits of this brief notice to do more than draw attention to the cosmographical significance attributed to the granites by Professor Tchirwinsky and his opinion of the place they occupy in the earth's crust (pp. 645–654). He believes that granite is only to be found in the outermost part of the crust, and that it plays a very small part in the upbuilding of our planet. This conclusion is drawn from the relation of the mean specific gravity of granite to that of the earth. The average specific gravity of the basic eruptive rocks, according to figures for gabbro, diabase, basalt and diorite, as given by Osann, is about 2.9; that of granite is from 2.67 to 2.68 (p. 636). Now it is computed that the specific gravity of the earth's crust to a depth of 4,000 meters only is on the average 3.13. This would indicate that the granite formations are comparatively superficial. In this connection it is interesting to note that the mean specific gravity of the moon, which Professor Tchirwinsky terms "the sister or the daughter of the earth," and that of the meteorites, is from 3.4 to 3.5. Much importance is based upon the absence of magnesia, and the associated biotite; the latter is only of rare occurrence and magnesia is one of the least plentiful of the constituents so that it could be questioned whether its presence is of much or any importance.

There are three things to be regarded in a volume of such magnitude as the work of Professor Tchirwinsky. We regret that a communication of such value as he sets forth in his work should be published only in the Russian language, an unfortunate circumstance for most workers who understand only English, German or French.

Second, many of the analyses quoted are old ones; the more recent ones by American analysts having been omitted. This is regrettable since they would have greatly increased the value of the deductions.

Nevertheless the work is a monument of great value and as a contribution to petrology, of great importance.

George Frederick Kunz

De Rietsuikerindustrie in de Verschillende Landen van Productie. H. C. Prinsen Geerligs. Pp. xviii + 416 + xxiii. Amsterdam, J. H. De Bussy. 1911.

This is the fourth volume of a hand-book of sugar-cane culture and cane-sugar manufacture, published by the Iavanese sugar-experiment stations, a work of great value and importance for the sugar industry.

The author first gives a concise historical review of the sugar industry from the earliest times and then passes on to describe in detail the cane industry of all countries—some forty-odd in number—at the present time.

Prinsen Geerligs considers his theme from the historical, the technical and the economic point of view; he enters into the geographical and the climatic conditions of each country, discusses the technical evolution of the industry, studies the bounty question, and gives copious data on the consumption and export of sugar in the several countries.

A number of charts, diagrams and maps, as well as sundry illustrations, scattered throughout the book, add greatly to the elucidation of the immense amount of material brought together within these pages, material nowhere else available in so convenient a form.

Issue of a publication of this kind, a publication of importance to workers in many sections of the globe, causes one to voice regret that it should have appeared in Dutch, a language known to but comparatively few. There certainly is need of a true world language in which all works of great and general interest should be published and thus prove accessible to all without expenditure of the additional labor of translation and loss of time.

It is to be hoped that this book may soon appear in one or more of the leading tongues —an English version, certainly, would be sure of a warm welcome. F. G. Wiechmann

The Reduction of Domestic Mosquitoes: Instructions for the Use of Municipalities, Town Councils, Health Officers, Sanitary Inspectors and Residents in Warm Climates. By Edward Halford Ross, M.R.C.S. Eng-