

book upon a subject which is in the empirical stage of its history, yet in this volume the authors have succeeded in producing a work which is rich in useful information, and which the electric constructor will find a valuable addition to his library. From a scientific standpoint perhaps the most interesting portion of the book is the second chapter, which summarizes very effectively the present state of knowledge regarding the dielectric strength of various materials under various conditions. Nothing is more convincing evidence of the need of further investigating the passage of electricity through gases than the discordant values obtained by different experimenters for the dielectric strength of air.

The constructor will find the chapters on field and on armature insulation and on the 'space factor' exceedingly practical and suggestive, and indeed wherever the authors have had the opportunity of drawing upon their own valuable experience and exercising untrammelled their nice discrimination the results are very satisfactory. Unhappily, insulation at present must rank as crude art rather than as science, and art, too, somewhat luridly colored by commercial daubers.

Of patented insulating preparations and secret compounds the name is legion, and good, bad and indifferent, all alike make the most extravagant claims, and back them up by experiments. These compounds can not be left without mention in a book on insulation, for some of them are highly meritorious, but proper and adequate treatment of them is a practical impossibility. In dealing with this part of their subject therefore, the authors can hardly do more than supplement the alleged facts by such data as are available and to let the matter go at that. They have at least avoided the error of assuming commercial data to be altogether reliable by giving several points of view on disputed topics. The chapters treating of oil insulation fortunately escape such difficulties, paraffin and other oils being free from patents and trade marks, and these will well repay study.

The facility with which oils, spite of the old saying that oil and water will not mix, take up moisture enough to ruin their insulating prop-

erties will surprise the non-technical reader and suggests an interesting and useful field of research.

As a bit of friendly criticism it should be suggested that in the next edition most of the experimental curves given should be remade by the wax process, in the interest of neatness and easy reference. A very useful bibliography of the subject is a valuable feature of the book, and the index is satisfactorily full. Altogether Turner and Hobart have done a commendable piece of work and one that will be widely appreciated.

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Grundriss der Soziologie. By LUDWIG GUM-
PLOWICZ. Second edition, revised and en-
larged. Vienna, 1905.

Sociologists in this country will be interested in this new edition of Doctor Gumpowicz's famous work. In the preface he calls attention to the rapid development of sociological study during the last twenty years, in which development he modestly hints that his 'Grundriss' might well assert, *Quorum pars magna fui*.

The text of the first edition is preserved intact, with slight verbal changes here and there. The chief modifications consist in additions, reference notes and quotations from later works. In book one, for instance, the history of sociology is brought down to date. Special attention is given in this to the views of Ratzenhofer, whose untimely death while homeward bound from the congress at St. Louis, deprived sociology of one of its foremost writers. Ratzenhofer's 'Positive Ethik' is extensively quoted from in book four, pages 330-336. Discussions of 'Methode der Soziologie,' and 'Geschichtsphilosophische Konstruktionen,' complete the list of important additions.

This last discussion should be read in connection with his article in *American Journal of Sociology*, March, 1905, entitled 'An Austrian Appreciation of Lester F. Ward.' Dr. Gumpowicz frankly admits that he is not yet prepared to believe in the possibility of an 'applied sociology,' but, while still holding to

the position he set forth in his first edition, he is prepared to see his argument become old-fashioned (hinfällig), with advance in sociological knowledge.

The author has lost none of his old-time vigor of expression, nor of his opposition to the 'organic theory.' He takes occasion to give this latter some hard blows, even though his conclusion is, "Diese 'Methode' ist ein für allemal abgetan," page 170.

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BROWN UNIVERSITY,
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DISCUSSION AND CORRESPONDENCE.

BREEDING BENEFICIAL INSECTS.

Harper's Monthly Magazine is a journal of such high standing and is as a rule so clean and so accurate that anything published in its pages, aside from ostensible fiction, is received by a very large reading public as bearing the stamp of absolute accuracy. It, therefore, becomes necessary whenever an inaccurate statement is published in its pages, and particularly when by such a statement a keen injustice is done to an institution or to an individual, to publish in some way and as speedily as possible an emphatic rejoinder and correction. I, therefore, wish to call attention to the article by H. A. Crafts in the October number of *Harper's Magazine*, pages 778 to 782, which bears the title of this present communication. The article refers to the excellent work which has been done in California in the breeding of beneficial insects, and more especially to the admirable quarantine carried on by that state against the possible importation of new insect pests. To these features of the article no exception can be taken, but there is another and important matter which must be corrected.

Mr. Crafts writes:

Mr. Craw [Alexander Craw, late Horticultural Quarantine Officer of California] advised that search be made in foreign countries for the parasite that would destroy the 'cottony cushion-scale.' At that time the state had enacted no horticultural laws, and there were no public funds available for the prosecution of the search suggested by Mr. Craw. But to remedy this defect

private funds were raised, and Professor Albert Koebele, an attaché of the United States Department of Agriculture, was commissioned to make the quest.

Professor Koebele in the course of his travels went to Australia, where he found a grub feeding upon the cottony cushion-scale. He took the grub and developed it to its condition of maturity, and found that it grew into a small beetle known as a 'ladybird.' At the same time the professor made a second discovery, and that was that a secondary parasite was preying upon the 'ladybird.'

Knowing that it would be fatal to the project to send the ladybird and its parasite to California together, he set about propagating a colony of the little beetles in close confinement. He accordingly had glass-houses built over two small orange-trees in an orchard that was infested with the cottony cushion-scale, and beneath these he bred up some strong colonies of the ladybirds and sent them to Mr. Craw.

Upon their arrival in California the process of propagation was continued and a large number of the bugs raised. * * *

The insects thus raised by Mr. Craw were sent out in small colonies all over the state wherever there was an orange or lemon orchard affected by the cottony cushion-scale and turned loose in the trees. The result was the speedy cleaning up of the pest, and it has remained in subjection ever since. And thus the great citrus-fruit industry of California was saved.

In these statements Mr. Crafts has done a great injustice to the United States Department of Agriculture, and to the late C. V. Riley, at that time (1888-90) chief entomologist of the department. The facts briefly are these. Prior to the Australian expedition of Mr. Koebele, Professor Riley was in California. He attended, with Mr. Craw, a large horticultural meeting, and the subject of sending abroad for parasites was broached at this meeting. It is quite possible that Professor Riley got the original idea from Mr. Craw. Here, however, Mr. Craw's connection with the introduction ceases; nor do I think Mr. Craw has ever made any personal claim which would in any further way substantiate the statements made by Mr. Crafts, just quoted. Professor Riley returned to Washington, corresponded with entomologists in Australia,