

The author in this book points out that the presence of gaseous films and pockets in the dielectric is a frequent cause of breakdown in cables. The presence of highly ionised gas in the small cavities causes distortion of the electrostatic field and a tangential stress is produced above the surfaces of the paper strips. At high stresses gases can migrate through the paper sheets under the action of the ionic bombardment. Thus an ionised path is built up in the direction of the conducting path and breakdown will ultimately result. In the United States there are oil-filled cables operating at 132,000 volts. There is a central duct in the cable which is filled with oil. There are experimental cables also operating at very high pressures in Germany, England, and Italy. In Italy, an oil-filled cable has been operating for a year at 70,000 volts. This book will be of interest to cable engineers.

Our Bookshelf.

Der adsorbierende Bodenkomplex: und die adsorbierten Bodenkationen als Grundlage der genetischen Bodenklassifikation. Von Prof. K. K. Gedroiz. Nach der 2. Auflage des Originals aus dem Russischen übersetzt von H. Kuron. (Sonderausgabe aus den *Kolloidchemischen Beiheften*, herausgegeben von Prof. Dr. Wo. Ostwald.) Pp. viii + 112. (Dresden und Leipzig: Theodor Steinkopff, 1929.) 5 gold marks.

THE translation from Russian into English of a series of pioneering papers by K. K. Gedroiz was in a large measure responsible for focusing attention on the importance of the cation exchange process and the colloidal complex in the interpretation of the properties of soils. A German translation has now appeared of an important paper in which Gedroiz surveys the more recent work, especially in the U.S. Bureau of Soils, the Sudan, and Russia, on the composition and properties of the inorganic colloidal matter of soils, and then attempts to build up a system of soil classification based on the chemical composition of the adsorbing complex. In the present stage of our ignorance of the nature of the soil organic matter, Gedroiz restricts himself to the inorganic colloidal matter. He raises doubts as to the wisdom of the present tendency to identify this colloidal matter with the clay of mechanical analyses, and would prefer to use 0.25μ as the upper limit for particle size of colloidal clay instead of 2μ .

After discussing the exchangeable bases responsible for the development of chernozem (or saline) and solontschak and solonetz (or alkaline) soil types, Prof. Gedroiz proposes a method of distinguishing between the acid unsaturated podsol soil and those acid solodi soils derived by breaking down of alkali soils. The so-called amorphous silica soluble in 50 per cent potassium at 100° is greater in the solodi than in the podsol.

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Nature Rambles: an Introduction to Country-Lore. By Edward Step. (The "Come-with-Me" Books.) *Winter to Spring.* Pp. vii + 152 + 31 plates. *Spring to Summer.* Pp. viii + 152 + 31 plates. *Summer to Autumn.* Pp. viii + 152 + 31 plates. *Autumn to Winter.* Pp. viii + 152 + 31 plates. (London and New York: Frederick Warne and Co., Ltd., 1930.) 2s. 6d. net each.

THIS collection of four volumes, divided, as their titles suggest, into the four natural seasons, fulfil one object in making fascinating reading. The author is also to be congratulated on the many splendid illustrations and especially the photographs. Apart from this, the utility of the book is questionable. From an academic point of view, it is practically useless. Besides, a real lover of Nature would prefer to study her along his own lines, rather than along those set out by another. A guide is useful; but this book can scarcely be recommended as such. Placing observations of this type on an ecological basis demands the consideration of causal relationships between habit and habitat. To know the external morphology of a marsh-marigold and to be able to name it on sight is not so useful as to try to find out why it invariably grows in water-logged soils. The author must plead guilty to omitting this important branch of Nature study.

However, the book justifies itself, in that it will take the town-dweller out into the country-side without even leaving his armchair; but he who finds it possible would be well advised to get hold of a good 'flora' and 'fauna' and tramp the country himself.

Old Age, the Major Involution: the Physiology and Pathology of the Aging Process. By Prof. Aldred Scott Warthin. Pp. xvi + 199 (11 plates). (London: Constable and Co., Ltd., 1929.) 15s. net.

Two years ago, Dr. Warthin, professor of pathology in the University of Michigan, delivered a lecture before the New York Academy of Medicine on the subject of old age and the aging process. The lecture attracted so much attention that Dr. Warthin was induced to extend it into the form of this most interesting monograph.

The curve of the individual human life, he says, shows an ascending portion, the period of growth or *evolution*; its apex, a relatively short plateau of *maturity*; and the descending portion, the period of retrogression or *involution*. The involution processes, he contends, are essentially physiological in nature, and old age is to be considered as a normal involution and not as a pathological process. He argues his case as a scientific man addressing scientific men. But he does not disguise his hostility to "modern futilities of life-extension of the individual to extreme limits and of possible rejuvenation", and his hope that on such a scientific foundation as he lays there may be built a working philosophy of life.

We have given a bare indication of the contents of a book which is replete with interest, even to the non-medical reader. The descriptions of the successive stages of human life, down to and including senescence and actual old age, are of value, apart from the main purpose of the book.