For cards printed in the form shown in the illustration a vertical filing case with vertical guide cards would be slightly more convenient than the form of cabinet in which the cards lie horizontally, although the latter form is now in use in this laboratory without any serious inconvenience. The vertical filing cases are not usually kept in stock by dealers in these supplies, and if made to order are somewhat more expensive.

For analytical laboratories other than those in agricultural chemistry, the cards should, of course, be printed in other forms than those described above. In some agricultural chemical laboratories further blank forms for "Insecticides and Fungicides," "Waters," etc., might be added with advantage. The writer would be pleased to send a sample set of his own cards to any one who is interested in the matter, or who contemplates making use of this system.

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NEW BOOKS.

PROGRESS IN ALKALOIDAL CHEMISTRY DURING THE YEAR 1904. By H. M. GORDIN. Milwaukee, Wis.: Pharmaceutical Review Pub. Co. 1905. 94 pp. Price, $0.70.

This is Monograph No. 10, of the Pharmaceutical Science Series edited by Edward Kremers.

Many important contributions to the chemistry of the alkaloids were reported in 1904. The constitution of ricinine was definitely established. The researches of Knorr and others resulted in throwing additional light upon the probable structure of morphine and of certain of the other opium alkaloids. Investigations of conhydrine and the coniceines brought the problem of their constitution much nearer to its final solution. The identity of lupinidine and sparteine was shown by Willstätter and his co-workers. Papaverine and cotarnine received considerable attention, and many interesting new derivatives of these bases were prepared. New characteristic color reactions for various alkaloids were reported by Reichard and others. Additional data were secured of the distribution of the various alkaloids in the plant kingdom. The only alkaloid discovered in 1904 was skimmianine, which was isolated by Honda from the leaves

of *Skimmia Japonica* Thunb., and to which the formula $C_{32}H_{29}O_9N_3$ was assigned.

The alkaloids are classified alphabetically. The subject-matter is well presented, with full references to the literature, and the monograph constitutes an excellent resumé of the progress of alkaloidal chemistry in 1904. It should be on file in all laboratories interested in this field of organic chemistry.

MARSTON TAYLOR BOGERT.

EXERCISES IN QUANTITATIVE CHEMISTRY. By HARMON NORTHROP MORSE, Professor of Analytical Chemistry in the Johns Hopkins University. Boston: Ginn and Co. 1905. 556 pp. Price, $2.00.

This book is a highly satisfactory collection of well explained quantitative exercises. It is noteworthy for combining many physico-chemical measurements with the most varied exercises in quantitative analysis. The chapter headings include: The balance, barometer, thermometer; calibration of apparatus for measuring gases and liquids; standard solutions; determination of specific gravities and molecular weights; purification; estimation of silver, the halogens, sulphur, nitrogen, phosphorus, arsenic, silicates, carbon dioxide, carbon, hydrogen, alkalies and alkaline earths; gas analysis; volumetric analysis; electro-analysis; butter analysis; electrical heating appliances; electrical methods for combustion of organic substances.

The author thinks that a list of this sort will give an average student the best possible foundation for subsequent work, whether in physical, organic, inorganic or *analytical* chemistry. But in the opinion of the reviewer the list is much longer than could possibly be assigned even for the bulk of a full year's work. In the next place it merely takes little slices from courses, units in themselves, which the student should have later anyway, *e. g.*, physical or organic chemistry. Viewed in this light, therefore, the course seems adapted for students who might not go further in some of the fields treated, *e. g.*, gas analysis; but candidates for the doctorate would secure a more symmetrical development by taking each special field in turn, after an early course in gravimetric and volumetric analysis.

But this list is a step in the right direction. Here are taught varied principles, together with varied quantitative methods. The scrutiny of instruments and their calibration belongs here, as befitting quantitative work, for instruments often tell as wrong