FALL OF A METEORITE IN MINNESOTA

THE following account of the fall of a meteorite near Parker's Prairie, Minnesota, was obtained from eye-witnesses.

On Thursday, July 17, about noon, between 12:15 and 12:30, Mr. C. U. Carlson and family, together with his neighbor, Mr. T. W. Sterriker, were at the dinner table near a double window facing the north, when an "awful explosion" was heard, and looking out of the window they saw through the trees the water in the small shallow lake about 300 feet away splash to a height of forty or fifty feet. The boys and Mr. Sterriker rushed out and observed the high waves which formed a "cross bar" effect out about seventy-five feet from shore. This effect was evidently due to wave interference, as the fall occurred in a small bay.

The fall was also seen from a point on the opposite side of the lake, about a quarter of a mile away, by Mr. Sterriker's seven-year-old daughter, who thought it was an aeroplane. She described it as coming from the west or northwest.

The witnesses agree that there was bluish smoke and steam formed over the lake by the fall, both of which drifted quickly away in the southwest breeze.

Mr. Carlson's farm is in Ottertail County, Section 10, T. 131 N, R. 37 W.

During the days and evenings immediately following the fall, several men enthusiastically spent hours trying to find the meteorite without success. The writers spent the afternoon of August 9 prodding the thick mud from the end of a rowboat, with a long steel rod, with no better luck. The water is low, its surface being about five or six feet above a sand hard pan in the locality of the fall. Over the bottom of the lake basin is a layer of soft mud from three to five feet deep.

WILLIAM O. BEAL
GEORGE A. THIEL
THE UNIVERSITY OF MINNESOTA

SCIENTIFIC BOOKS

L'Hérédité. By E. GUYÉNOT, Paris, Doin, small 8vo, 463 pp., 1924. *Heredity and Eugenics.* By R. R. GATES, New York, MacMillan, 288 pp., 1924. *Outline of Genetics, with special reference to plant material,* M. C. COULTER, Chicago, University of Chicago Press, 211 pp., 1924.

THE modern science of genetics, now rounding out its first quarter of a century, has brought out such an astonishing array of new facts that the need of text-books and general treatises, which shall render this new knowledge available for schools and the general reader, has become obvious. We have them now in most of the European languages. In Germany, besides Baur's work written from the botanical standpoint, there is the new "Einführung" of Goldschmidt. Scandinavia has several small treatises. The French have built the new facts into their temple of science very slowly, waiting to be shown that they will weather the disintegrating tendencies of further critical work. Now we have in the "Bibliothèque de Biologie générale," which Professor Caullery is editing, a book on genetics in which Lamarck's name is hardly mentioned, and the inheritance of acquired characters is not referred to except to ridicule it. This is Guyénot's book "L'Hérédité." Starting with the view that heredity is a broader topic than Mendelian crossing, the author, after a brief introduction, discusses in three livres the laws of hybridization, the chromosome theory of heredity and Mendelian anomalies and problems of heredity (including human heredity). The facts of modern genetics comprised in these three parts are familiar enough to American geneticists. They are set forth in the brief and clear style characteristic of the best French professors. In one respect the author takes a broader view than some in insisting that both cytoplasm and nucleus cooperate and interact in heredity; although we are ignorant of just how. The author denies that we possess a sufficient comprehension of the mechanism of heredity.

The text-book of Gates is somewhat different from Guyénot's and very different from the classic treatise of Bateson or the text-book of Punnett, to mention only his own countrymen. He states in the preface that he was impelled to write the book by his interest in eugenics and, accordingly, except for two introductory chapters on heredity in general, the book is devoted to abstracts of the literature of discoveries in the fields of physical and mental characters of man, closing with a chapter on social and world aspects of eugenics. In the latter chapter is a discussion of miscegenation and problems of population. As indicated above the body of the book comprises abstracts of scores of papers, classified under the various topics, with frequent reference to findings in other vertebrates. While the data are compiled with no little skill, still the result is not all it might be in two respects, *viz.,* completeness of acquaintance with the vast literature and criticalness in working over that literature. But, doubtless, it may be maintained with much reason that it is still too early, because of incompleteness of data, to write a critical and philosophical history of human heredity.

The text-book of Coulter is, unlike the others considered in this review, chiefly limited to a particular kind of material, namely, plants and mostly the

higher plants. However, the author has become more catholic in the selection of materials in this revision than in the original edition of "Plant Genetics." That title he recognizes as too narrow, inasmuch as "the fundamental principles of inheritance are the same in the two groups of organisms" and "it is necessary to use many of the results of animal investigation." The book is designed to be used as an elementary text, yet is provided with material for advanced students. It is one of the first elementary texts that has been issued; the "essentials" reduced to 200 pages. It is accompanied by numerous new diagrams. Altogether it is clearly the work of a teacher with hereditary capacity and long experience and will do much to help train a new generation of genetical students. As compared with Castle's "Genetics and Eugenics" (of which a new edition has just appeared) it is more of an elementary text rather than a compendium. It is less dominated by the author's viewpoint based on the personal researches of a lifetime; it lays more stress on plants and does not consider human material at all.

C. B. DAVENPORT

COLD SPRING HARBOR, N. Y.

SCIENTIFIC APPARATUS AND METHODS

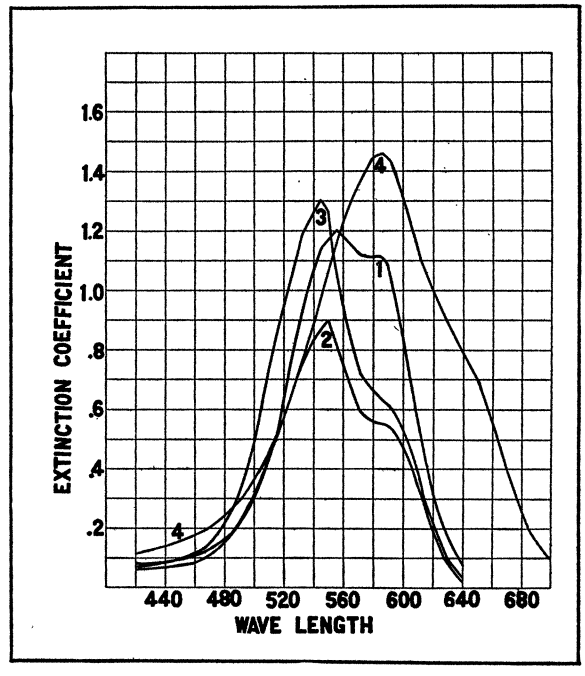
THE INVESTIGATION OF BIOLOGICAL STAINS IN THE COLOR LABORATORY OF THE BUREAU OF CHEMISTRY[1]

THE chemical investigation of stains in the Color Laboratory is undertaken in cooperation with the Commission on Standardization of Biological Stains, of which one of the authors is a member.

In determining the dye content of samples, both the spectrophotometric method and titration with titanous chloride have given general satisfaction, while alternate methods of analysis have been developed in specific instances. In establishing the essential chemical character of samples or determining, so far as is possible, the identity and relative proportions of all coloring matters present in appreciable quantities, spectroscopic examination has proved particularly convenient and effective.

An examination of twenty-five samples of basic fuchsine showed a wide range of chemical variation, attributable to differing views of manufacturers as to the relative effectiveness of the three basic fuchsines listed by Schultz for general or specific application. The relative degree of methylation of these dyes constitutes the principal factor of chemical variation for the determination of which reliable spectrophotometric methods have been developed. Collaborative investigations of the staining characteristics of a variety of typical fuchsines, of which the identity has been established in this manner, are now being undertaken. The results obtained in these tests should do much to dispel the present uncertainty as to the specific utility of the different constitutional types of the stain.

The preliminary examinations of the samples of cresylecht violet used by Williams in his investigation on the staining of tissues,[2] and of another sample of Grübler product proved illuminating. The Grübler stains contained variable proportions of a red and of a violet dye, whereas the same violet dye, free from admixture with other dyes, was present in the American stain. It was clearly demonstrated that the effective staining agent in the application of the stain made by Williams was the violet dye. It re-



CRESYLECHT VIOLET

(1) = Williams' original Grübler stain—100 mg. dye per liter.

(2) = Williams' second Grübler stain—100 mg. dye per liter.

(3) = A third Grübler stain —100 mg. dye per liter.

(4) = Williams' American (No. 1197)—100 mg. dye per liter.

Solvent = buffered aqueous sol. (pH 6.5) 1 cm. layer.

[1] 98th contribution from the Color Laboratory, Bureau of Chemistry, Washington, D. C.

[2] *J. of Lab. and Clin. Med.*, Vol. VIII, No. 4, January, 1923.