

nical branch of the science is a question which might best be left to the layman himself. To the chemist, however, who is familiar with the industries of Germany, the value of the book as a stimulus to industrial chemistry lies little above the zero mark. Germany leads the world in industrial chemistry, not because of any attempt to popularize science by means of educating the masses in these extremely technical branches, but because the nation has pursued a diametrically opposite policy. The highly trained few instead of the superficially trained many is the secret of Germany's industrial success.

The book is made up of twelve chapters, some of which have already appeared as magazine articles or "researches," as the publishers choose to call them. The whole is cemented together by both a preface and an introduction with numerous little prefaces thrown in, in order to bring about catalytic action in the mind of the reader.

The author was sent abroad for one year to "write up" the industries of Europe. Evidently the time was too short, for some of the great industries have been left out, or perhaps crowded out by the more pyro-technical ones like the New Microbe Inoculation. That "laymen subsist on a pabulum of illogical and, for the most part, sensational misinformation," is a stinging blow to scores of popular writers who are moulding public thought and who never appear under the yellow flag. If some one of these writers should consider it worth while, he might, using "illogical" and "sensational," the same standards used by the author, find in "Chemistry of Commerce" hues differing only by a very few wave lengths from the sodium spectrum.

The chapter on alcohol is interesting and reminds one of some of the popular newspaper articles which have appeared from time to time since the new Food and Drug Act. The Ethyl and Maude pun, however, seems a little out of place in any book or article which lays any claims to the science.

Some of the other chapters as, for instance, Catalysis, Fixation of Nitrogen, The Rare Earths, Modern Chemistry and Glass-Making, and Cellulose are too familiar to the reader to need more than mention. Lime nitrogen would probably have had a little more significant meaning to the layman than Kalkstickstoff.

The last chapter on Industrial Fellowship is unique. The scheme is not entirely new. It does, however, seem a little out of place.

In conclusion, let it be hoped that the author may not be disappointed in his method of bringing about a great industrial awakening by his appeal to the public.

GEORGE B. FRANKFORTER.

**Modern Pigments and their Vehicles.** By FRED MAIRE. New York: J. Wiley & Sons. pp. 265. Price, \$2.00.

This book is evidently written by a man who has had a great deal of

experience, and contains some very valuable hints, and some excellent descriptions of the composition of pigments. In its chemistry it is a trifle weak. Its style of composition is colloquial, and a publishing house like J. Wiley & Sons should employ a scientific censor whose duty it is to edit a book thoroughly. For instance, the statement that the formula for white lead is  $2\text{PbCO}_2$ , should not be published, but probably this is a printer's mistake. The statement that red lead is a bi-oxide, and orange mineral a ter-oxide is also incorrect.

Under the History and Chemistry of Red Lead, the author states that red lead is the best priming paint for steel and other metals, and that engineers and architects are unanimous in recommending it, and that it is becoming more important every year now that so much structural iron and steel are being used in the construction of buildings in all our large cities. This is only one example of some of the haphazard statements made in the book, because the direct opposite is the case. The Singer Tower, The City Investing Building, the Metropolitan Life Tower and the new Pennsylvania Terminal are four of the largest buildings with steel construction that have ever been built, and not one of them has had red lead applied as a priming or finishing coat, and I do not know of a sky scraper of any importance excepting the Times Building, on which red lead has been used. The author quotes the Norfolk Navy Yard, but inasmuch as the Navy Department in the United States is not progressive, and all their painting is done *in situ*, which is totally different from the shop and field coating of building construction, we cannot attach much importance to naval usage. This would tend to indicate that engineers and architects are anything but unanimous in recommending red lead as a priming coat, and many of the railroads in the United States who do use red lead use a special kind of ready-prepared or ready-mixed red lead which contains a large percentage of reinforcing pigment like silica.

On the other hand, Mr. Maire's book contains some excellent general information for the painter. He has, however, omitted any reference to wood turpentine and China Wood Oil and speaks of naphtha and benzine as materials having a horrible smell.

The chapter on the mixing of tints is excellent, and the general description of the dry colors is very good. The table of synonyms is perhaps the best table of its kind ever published. MAXIMILIAN TOCH.

**Technologie der Fette und Oele, Bd. II, Gewinnung der Fette und Oele, Spezieller Teil.** By GUSTAV HEFTER, with the collaboration of G. LUTZ, O. HELLER, FELIX KASSLER, and others. Berlin: Julius Springer. 1908. pp. x+97+, with 19 plates. Price, 28 Marks.

The first volume of this valuable work appeared in 1907; Volumes III and IV are promised during 1908. Hefter is director of the Aktien-