disease. In the course of time public opinion might sanction legislation of a prohibitive character. As to inveterate criminals, we must bring our minds to the remedy of the perpetual confinement of the irreclaimable, so that they may die out and leave no successors.

After discussing the competition of brain against brain and the fact that property is not always acquired by the most capable, and considering the effect of modern democratic attemps to equalize the struggle, as also the question of the relative sterility of the capables and the possible swamping of the capables by the incapables, our author says he cannot doubt that by selection England, in a hundred years, might have its average man and woman as well endowed in body and mind as are the best of us today.

It should be mentioned that Dr. Haycraft has a high regard for the deserving poor and wishes to see the criminal and vagrant class separated from them in our poor-houses and treated differently.

GEO. ST. CLAIR.

CARDIFF, WALES.

A Short History of Chemistry. By F. P. VENABLE, PH. D. 12 mo. Pp. viii., 163. Boston, D. C. Heath & Co. 1894. Price, $1.00.

What may be called the historical habit of mind is of great value to the student of any science. Many things are constantly met with which can only be understood in the light of their historical setting. This is especially true in the case of a science which has seen so many vicissitudes and so many changes in its point of view as has chemistry. For this reason a book which gives a clear, concise outline of the historical development of the science is sure to find an extensive field of usefulness.

The present author follows, in general, the division into periods as given by Kopp, but discusses the periods of Medical Chemistry and of Phlogiston together under the head of 'Qualitative Chemistry' and adds a period to which the name of Structural Chemistry is given. The opinion is expressed that this period has already passed and that we are entering upon a new and different phase of development for the science. His characterization of the present tendencies of the science is, however, necessarily vague and unsatisfactory.

The book is well written and there appear to be few errors. On page 141 the value of 15.96 for the atomic weight of oxygen is based, incorrectly, on the authority of Stas, instead of on that of Dumas and of Erdmann and Marchand.

For any student who desires more than a very elementary knowledge of the science, the book must, of course, be considered as an outline which is to be filled out by extensive reading of larger works. But, whether used by itself or in connection with other books or lectures, it is hoped that a book which is so easily accessible to every one will give a new impetus to a phase of chemical study which has been too much neglected.

W. A. NOYES.

ROSE POLYTECHNIC INSTITUTE.

A Laboratory Manual containing directions for a course of experiments in Organic Chemistry systematically arranged to accompany Remsen's Organic Chemistry by W. R. ORNDORFF. Boston, Heath & Co. 1894.

As indicated by the title, this manual contains directions for the experiments in Remsen's Organic Chemistry in a form suitable for students in the laboratory. The page being printed on but one side, ample room is left for the student's observations and, as the text-book is not open before him, he is led to observe for himself, instead of merely trying to see what the text-book says he should. As stated by Professor Remsen in the preface, "Great care has been taken to

determine the best condition for each experiment, and in many cases the directions given are undoubtedly better than those given in my (R's) book." Frequently, however, the only difference in the directions is that in the text-book they are more or less general, whereas in the manual they are given in great detail and, though the student may thus fail less frequently the first time he tries to make a substance, the educational value is diminished. Often more is learned by failure than success. The student must determine the necessary conditions himself. Thus he becomes self-reliant and learns to think chemically. This fault of the manual is to some extent compensated by the questions asked on almost every page. On the whole, the book will be found a valuable aid, especially in those laboratories in which the instructor can not devote much time to each student.

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University of Chicago.

NOTES AND NEWS.

INVESTIGATION OF THE GOLD AND COAL RESOURCES OF ALASKA.

Congress at its last session ordered a special investigation of the gold and coal resources of Alaska, appropriating $5,000 therefor. The investigation will be made under the direction of the U. S. Geological Survey, and will be under the immediate charge of Dr. George F. Becker, the well known gold expert. With Dr. Becker will be Dr. Wm. H. Dall, paleontologist, who has a superior knowledge of the geography and the general geology of the region. These experts and a single geologic assistant will comprise the party.

The party will leave Washington City, May 15, and it is proposed, with the sum available, to spend three months in actual field work, spending a month in each of three distinct districts along the Alaskan coast. Work will be begun in the Sitka area, where both gold and coal are known to occur. Transportation into and about the various inlets and bays to the north and west of Sitka will be furnished, through the courtesy of Secretary Herbert of the Navy, by the U. S. S. Pinta, which will be stationed in those waters. From the Sitka region the party will go to Kadiak Island and Cook's Inlet by mail steamer. In this region both gold and coal will be looked for also. The district to be visited last is Shumagin, to be reached by mail steamer from Kadiak. In the last named region, as in the other areas, gold and coal will be the main objects of inquiry, though the district is otherwise of very considerable geologic interest on account of its fossil remains and the presence of an active volcano.

The search for coal is one of especial interest to the Navy Department; if coal suitable for use as fuel in the war vessels and revenue cutters in the Pacific were found to be available in quantities, it would be of incalculable advantage to the Government.

It will not be feasible with the limited fund available to carry this investigation of gold and coal resources as far as might be desired. There is demand, for example, for an investigation of the gold placers of the Yucon river, but to do this work effectively the geologist will have to remain in the Yucon region through one summer and through the ensuing winter.

A REDFIELD MEMORIAL.

The botanical section of the Academy of Natural Sciences, of Philadelphia, which had under consideration the subject of a monument commemorative of the services to botanical science of the late John H. Redfield, Conservator of the herbarium of the Academy, has issued a circular, saying:

"It has been decided that no better monument to the memory of John H. Red-