essays, according to the preface, show the results of this method as applied to various questions. Hence he has entitled the book "Method and Results," but the various essays are so heterogeneous in character that the reader is likely to think that almost any other title would have served about as well. The book opens with a brief autobiography, which will interest the author's admirers for the account it gives of his early life and education; but it has little to say of his later scientific activity or of the many controversies in which he has been engaged. The longest paper of those here collected is that on "The Progress of Science," which was published at the time of Queen Victoria's jubilee, and with which the readers of this journal are doubtless familiar. Of the remaining essays several, of which the earliest is dated 1866, relate to physical science and the importance of cultivating it; while no less than four, mostly of recent date, are concerned with political topics. The main object of the latter is to set forth Mr. Huxley's views on the much debated question of socialism against individualism, as to which he occupies a middle ground in opposition to the extreme doctrines of both parties. He fails, however, to lay down any principle for the practical guidance of statesmen which will enable them to steer wisely and safely between the two; while much that he says about Rousseau and the social contract, though for the most part true enough, is merely a threshing of old straw. The whole book is marked by the vigor and earnestness that characterize all of Mr. Huxley's writings, as well as by that positiveness that he usually shows even when expressing the most "agnostic" opinions. The whole series of volumes, of which this is the first, will consist, we suppose, of works that have been published in some form before; but they will be handsomely printed, and readers will like to have the essays in a collected form.

Catalogue of Section One of the Museum of the Geological Survey, Embracing the Systematic Collection of Minerals and the Collections of Economic Minerals and Rocks and Specimens Illustrative of Structural Geology. By G. CHRISTIAN HOFFMAN, F. Inst. Chem., F. R. S. C. Printed by F. E. Dawson. Ten cents.

THE recently issued catalogue of section one of the museum of the Geological Survey of Canada embraces the systematic collection of minerals, and those of economic minerals and rocks, as well as a smaller series illustrative of structural phenomena. From it we learn that the collections comprise between 6,000 and 7,000 specimens. The systematic series is arranged in accordance with the classification employed in the latest edition of Dana's Mineralogy. The economic series is arranged as in the following synopsis: I. Metals and Their Ores. II. Minerals Applicable to Certain Chemical Manufactures. III. Minerals Used in the Production of Light and Heat. IV. Minerals (and Material Manufactured from Certain of the Same) Applicable to Common and Decorative Construction. V. Minerals Employed as Pigments. VI. Refractory (Fire Resisting) Minerals. VII. Brines, Salt and Mineral Waters. VIII. Minerals Applicable to the Fine Arts and to Jewelry. IX. Minerals Employed, with or without Previous Preparation, as Fertilizers. X. Minerals Employed for Grinding and Polishing. XI. Minerals of Miscellaneous Application.

The arrangement as above outlined is not wholly free from defects, but the present writer will venture the assertion that no one who has himself wrestled with the problem of museum installation will be inclined to criticize it too harshly. It will be always an open question as to whether, in such cases, material had best be arranged by kinds, and their use indicated by labels and handbooks, or whether we should attempt to classify according to usage, as above. The first method is much the easier, and to the systematic student the more useful since it involves much less duplication of material. Unfortunately the visiting public usually prefer seeing specimens to reading labels; at least the specimen must be seen first. Hence some such arrangement as that adopted by the Canadian Survey seems most nearly to meet their wants, though it must be acknowledged that it is wasteful of both space and materials, and vastly more troublesome in carrying out. The mineral quartz well illustrates this point. In its various forms it is used for optical purposes; in jewelry; as an abrading material; in the manufacture of glass, china or earthenware; as an adulterant in paints, and (in the form of sand) in mortar and brick making. This involves a duplication and reduplication of materials and labels which is at least trying. Concerning the effectiveness of the exhibit, naturally nothing can be learned merely from a perusal of a catalogue without illustrations other than a diagram of the exhibition hall. The least that can be said, is that it shows a very pains-taking and commendable attempt at making the work of the survey available to the public.

Examen Sommaire des Boissons Falsifiées. PAR ALEX. HÉBART, Préparateur aux travaux pratiques de Chimie à l'Ecole de Médecine. Paris, Gauthier-Villars et Fils. 171 p. 1893. (Broché 2 fr 50c. Cartonné 3 fr.)

IN this work is comprised a study of the more frequent of the adulterations with which many modern manufacturers load our wines and other table liquors. M. Hébart has aimed to produce a work for the educated public and for the amateur, which will be at once readable and intelligible to all of even elementary acquaintance with the science of chemistry. Unlike some other books of like intention, this manner of treatment has not drawn from the scientific usefulness of the work, and while many theoretically and practically difficult methods of analysis are omitted those which are described are admirable for their accuracy and applicability. A large number of important facts are advanced in the five chapters devoted successively to wines, ciders, beers, brandy and liquors, and vinegar, and at the same time many popular fancies regarding the adulterations of these liquids are exposed. In general terms the treatment in each of the above named chapters is as follows: First, a discussion of the history and composition of the crude material and finished products; second, a summary of the different varieties produced, and, third, a study of the adulterations and their characteristics, with particular attention given to those forms of adulteration which are most commonly met with. A popular exposition of scientific facts treated successfully in a scientific manner is sufficiently rare to make this work of M. Hébart's unique and of considerable value.

A Laboratory Guide for a Twenty Weeks' Course in General Chemistry. By GEORGE WILLARD BENNETT, A. M., Instructor in Chemistry, High School, and Chemist for the City of Indianapolis, Ind. Boston, D. C. Heath & Co. 163 p. 1893.

THIS little book is designed as an aid to the student in elementary chemistry and is addressed to him alone, with words of advice as to chemical manipulation and laboratory methods. The experiments (over 150 in number) are systematically arranged and are so placed before the pupil as to aid him in drawing his own conclusions by logical deductions from the facts observed. Methods of measurement, the comparison of physical and chemical change, the properties of the non-metals, their compounds, and the metals are illustrated in succession and with simplicity. In several cases the experiments have, however, been rather injudiciously chosen, as, for in-

stance, experiment 7, coming under the head of "Various Ways of Inducing Chemical Change." The student is told to mix together potassium chlorate, sugar, and concentrated sulphuric acid, these directions being followed by an interrogation mark, which is presumably intended to elicit from the student an explanation of what has taken place. An exclamation point would, however, seem more suitable after such an experiment!

NOTES AND NEWS.

On Dec. 5 Professor William H. Holmes read a paper before the Anthropological Society of Washington, in which he connected some types of pottery from the extreme southern states with that of the Caribs, by means of the peculiar style of ornamentation, observed also on the wood-carving described in Prof. O. T. Mason's pamphlets on the Latimer collection and the Guesde collection. In this same connection it is interesting to recall the observations of Prof. Jeffreys Wyman upon the evidence of cannibalism in the shell-heaps of the St. John's River, east Florida. Professor Wyman first came upon these evidences in 1861 and the results are stated in the seventh annual report of the Peabody Museum, published in 1874. With this bit of evidence, connecting the Caribs with southeastern United States, should also be associated the practice of some southern tribes of weaving a band of cotton or other textile above the calf of the leg so as to increase the size of the limb. This was practised by the Caribs also. Not much weight should be given to the co-existence among the Caribs and the southern tribes of the sarbacan and the blow-tube, because the last-named apparatus might be found wherever good straight reeds occur. The Cherokees, the Choctaws, the Chetimachas, the Attacapas, and perhaps some other tribes, make use of this weapon. It is interesting to mark that the Chetimachas anticipated the invention of the revolving fire-arm by employing the compound blow-tube made by fastening four or more canes together, as the tubes in an organ or pan-pipe. Perhaps no one of these fragments would absolutely identify the Caribs with the southeastern Indians, but it would seem strange if a people who could navigate the Caribbean Sea in large open boats were incapable of crossing from Cuba to Florida.

—*Nature* announces the death of Baron von Bülow, at Kiel. Von Bülow's Observatory, better known, perhaps, as Bothkamp Observatory, was the first in Germany devoted to astro-physical researches, and it stands as a splendid monument to his interest in astronomy. By his death astronomical physics has lost one of its most enthusiastic supporters.

—Macmillan & Co. will publish very shortly a work on "Mental Development in the Child and the Race," by Prof. J. Mark Baldwin, of Princeton, editor of the *Psychological Review* and author of the "Hand-Book of Psychology," etc. This book is to be a contribution to genetic and comparative psychology. It will deal in detail with the child's mental growth, and with questions concerning the nature and capacities of the animal mind. Special treatment is given to the problem of the origin of the mental faculties, such as Attention, Memory, Speech, Handwriting, Imitation, Volition. Although the book is to be mainly scientific in its method and results, the author hopes to interest teachers of a psychological turn by such chapters as Educational Bearings of Imitation, Social Suggestion, Habit and Accommodation, etc.

—*Wiedemann's Annalen der Physik und Chemie* for November, says *Nature*, contains an interesting paper by R Hennig, on the magnetic susceptibility of oxygen. The method employed, namely, the measurement of the displacement in a magnetic field of a short column of liquid in a slightly inclined capillary tube, due to the difference in the susceptibility of the two gases (oxygen and air) at the two ends of the liquid column, would hardly seem at first sight capable of giving very accurate values. The author, however, has obtained very fairly consistent results, and finds the value $0{\cdot}0963 \times 10^{-6}$ for the difference between the susceptibility of oxygen and air at a temperature of about 26° C., and at pres sures varying from 75 cm. of mercury to 328 cm. In