

*Bibliographia geologica répertoire des travaux concernant les sciences géologiques dressé d'après la classification décimale et formant la partie (549-571) de la Bibliographia Universalis.* Par MICHEL MOURLON, Directeur du Service géologique de Belgique avec la collaboration de G. SIMOENS, Docteur en sciences minérales, attaché au Service. Bruxelles, 1898.

This publication is accompanied by two pamphlets, 'Liste des périodiques compulsés pour l'élaboration de la bibliographia geologica dressé d'après la classification décimale par le Service géologique de Belgique,' and 'La classification décimale de Melvil Dewey appliquée aux sciences géologiques pour l'élaboration de la bibliographia geologica par le Service géologique de Belgique.'

Bibliographic work of the science of geology has heretofore been of a very fragmentary character and limited both geologically and geographically. But now we have here an attempt to compile for a definite period a universal bibliography of geologic literature. Bibliographic works have always been welcomed by geologists, and this one will surely receive its full quota of approval. The difficulties which attend the labor of preparing bibliographies of books written in languages with which one is more or less unfamiliar can hardly be realized. The various monographs, bulletins, proceedings, transactions, journals, memoirs, etc., published in many different cities and under the auspices of various government organizations and societies are full of pitfalls to one in a distant country who is not personally familiar with their methods of procedure, times of publication, etc. The various omissions in this work which are due to such causes have been passed over. Attention is here directed to the method of arranging the bibliographic matter and also to the scheme of indexing, which is somewhat new in its use for this purpose, and to which there appear to be certain fundamental objections which are inherent in the plan itself.

In this bibliography there is no alphabetic arrangement by authors' names, not even under the various subheadings. Apparently the papers are arranged under subheadings according to the index number—that is, papers that belong under one subheading and have the

index number 549.1 are grouped together; then 549.2 follows, and so on. Hence if you wish to find a particular paper you must know the subdivision of geology and index number under which it would be listed before you could find the reference to the proper publication. The arrangement is particularly unfortunate, and it is quite evident that in any bibliographic publication there should be one alphabetic arrangement by authors' names.

The classification of any branch of science is something that is always subject to modification, as our knowledge increases and ideas change. Such a classification should not only be elastic, but able to be rearranged to suit the ideas and needs of the individual without impairing its usefulness as a whole. The subject classification adopted for this portion of the *Bibliographia Universalis* will hardly meet with general approbation. The character and occurrence of metaliferous deposits can be classified under mineralogy only on the widest acceptance of the term, and is a rule not applicable to a minute classification. Certain subdivisions of stratigraphy under the heading geology are local, and are recognized by but few geologists, and only in restricted areas.

The decimal system of classification employed in this bibliography is used for putting books in order on the shelves of libraries, and is a quick method of finding them. Its value for such a purpose is no criterion by which to judge of its usefulness in a detailed classification of our knowledge of various subjects. Such an arbitrary system might be useful to the individual formulating it, but does not necessarily fulfill the requirements of a number of individuals.

The numerical system is open to the further objection that but a small amount of indexing is practicable, and that of a very general character. To illustrate this take the following example from this publication. In the notice of the Monograph on the Denver Basin of Colorado, by Emmons, Cross and Eldridge, the index number given is 551.7. 55 refers to geology, 551 to the physical structure of the globe, and 551.7 to stratigraphy. Indexing under such general headings conveys a very inadequate conception of the extent and character of this publication. To index it with some degree

of detail would require something like this: 549.8, 551.35, .4, .49, .71, .751, .762, .763, .78, .79, 552.11, .13, leaving out entirely the part relating to paleontology. Translating these numbers we have: 549, mineralogy; 549.8, combustible materials, coal; 55, geology; 551, physical structure of the globe; 551.35, erosion; 551.4, physiography; 551.49, hydrography; 551.71, pre-Cambrian; 551.751, Carboniferous; 551.762, Jurassic; 551.763, Cretaceous; 551.73, Tertiary; 551.79, Pleistocene; 552, lithology; 552.11, acid rocks; 552.13, basic rocks.

This is by no means an exceptional case, and there are many papers in this bibliography which require just such an analysis to give any one a satisfactory idea of their scope and character.

The attempt to classify our scientific knowledge by rows of figures will fail to meet the requirements of the average student. Any system, whatsoever, based on such a principle will require considerable effort to become sufficiently familiar with it to be readily employed, and it will be necessary to use it frequently in order to retain it in the memory. The average geologist will find it extremely inconvenient to fulfill either or both of these requisites.

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#### SCIENTIFIC JOURNALS.

*American Chemical Journal*, June: 'The Action of Zinc on Copper Silicide.' By G. DE CHALMOT. When molten zinc is added to melted copper silicide the two metals combine and the silicon separates in a crystalline condition. 'On the Colored Compounds obtained from Sodid Alcoholates and Picryl Chloride.' By C. L. JACKSON and W. F. BOOS. A number of complicated compounds have been isolated and studied. On the 'Action of Orthodiazobenzenesulphonic Acid on Methyl and Ethyl Alcohol.' By E. C. FRANKLIN. In these experiments the alkoxy reaction alone took place. The only effect due to increase in pressure was an increase in the yield of the alkoxy product. The action of nitric acid on the amides was also studied. 'On the Taste and Affinity of Acids.' By J. H. KASTLE. In a series of experiments

the author found that those acids which were stronger had the sourer taste. 'The Action of Nitric Acid on Tribromacetanilide.' By W. B. BENTLEY. The author was unable to obtain the nitric product described by Remmers. 'Researches on the Cycloamidines, Pyrimidine Derivatives.' By H. L. WHEELER. 'Some Double Salts Containing Selenium.' By J. F. NORRIS. 'On Phenylglutaric Acid and its Derivatives.' By S. AVERY and ROSA BOUTON. 'On  $\alpha$ -Methyl- $\beta$ -Phenylglutaric Acid.' By S. AVERY and M. L. FOSSLER. J. ELLIOTT GILPIN.

THE *American Journal of Science* for June, which completes Volume V. of the 4th series, contains as its first and longest article an account of the stratification of the electric discharge in Geissler tubes, with a theory of their cause and an account of some experiments made to test it. There are short articles on geological and mineralogical subjects by Messrs. W. Lindgren, H. W. Turner, J. H. Pratt, H. F. Bain and H. S. Washington. Mr. R. G. Leavitt describes a pycrometer, and Mr. L. C. Jones the action of carbondioxide on soluble borates. The number concludes with an article by Dr. F. H. Bigelow, reviewing his recently published bulletin of the Weather Bureau on solar and terrestrial magnetism in their relations to meteorology.

*Appleton's Popular Science Monthly* for June contains a portrait and sketch of Andrew Crombie Ramsay. Professor Heilprin continues his account of aspects of nature in the Sahara, and Dr. G. A. Dorsey describes a cruise among Haida and Tlingit villages of the Northwest coast. Professor D. R. McAnally writes on the Roman highways, and Dr. W. L. Howard on the physiology of strength and endurance. There are two articles on scientific education and an article by Professor W. H. Hudson on veracity. In so far as the *Monthly* is 'timely' it has the courage of its convictions and publishes an article on 'Peace as a Factor in Social and Political Reform' and an editorial entitled 'A Victim of Militarism.'

THE publication of a monthly *Revista di scienza biologiche* under the editorship of Professor Enrico Morselli is announced. It proposes to cover somewhat the same field as the