bald's work concludes with an appendix which includes a list of North American locusts and a list of African termites.

F. H. Chittenden.

INTERNATIONAL CATALOGUE OF SCIENTIFIC LITERATURE. GEOLOGY.

In looking over the reviews that have appeared of the various parts of the International Catalogue of Scientific Literature thus far issued for the year 1901, it is evident that those which are extremely critical have been written by men who are largely investigators. The men who have spent days in the laborious work of going over publications, writing out the titles of papers and arranging them according to a predetermined subject classification are certainly more generous in their commendation.

The publication on geology is probably as satisfactory as any of the others. Its greatest weakness for the purposes of the whole body of geologists is that of omissions and the limited scope of the subject classification. Many papers that have been omitted appeared in publications that have not been examined. But the character of the publication to be examined was limited by instruction concerning which the workers had no voice.

The scope of the subject classification is one of very great importance to the working geologist. The mass of geological literature is so large that he no longer burdens his memory with the fact that certain persons wrote upon certain topics about such a time and in such a place. Modern methods demand that these papers be brought together under suitable headings and that these shall be sufficiently detailed in scope to meet the needs of the investigator. The geological classification as it exists falls far short of filling this demand. This is not the fault of those who have prepared this bibliography, but the value of the publication under consideration would have been greatly enhanced if many papers had been brought out under more of the headings which were given them. This is due to the fact that probably much of this work of examining the literature was performed by persons who had no special knowledge of the subject, the literature of which they were classifying. This work to be well done—and no other sort of bibliographic work is acceptable—must be performed by those who have a considerable intimate knowledge of that portion of science which they are indexing. It is well known that some of those who participated in the formation of this organization were of the opinion that this work of classification could be executed by persons having a good general scientific education. The first annual issue of the bibliographies illustrates how erroneous is such a conclusion. If the preparation of the material by each of the regional bureaus were complete and satisfactory, the work of collecting and unifying them into a whole must be one replete with difficulties.

It is not the purpose of this notice to point out particular errors of omission or commission or to note defects in a spirit of hostile criticism, but to indicate what is fundamentally inadequate with the hope that in due time it will be rectified. It may prove to have been a wise determination to carry on this work for a period of five years before holding a congress at which these questions of revision will be discussed and determined. But it is believed that a higher grade of bibliographic work would result if a larger measure of discretion had been given to the central bureau. The difficulties which attend the inauguration of such a peculiar work are, indeed, great, but they must be overcome, if the organization is to be permanent and the outcome of its labor to meet the approbation and support of those for whose benefit it is conducted. For the present the following suggestions are offered to those who have in charge the preparation of these bibliographies.

1. Secure the assistance of specialists as far as possible. Would it not be practicable to send to such persons a list of current periodicals, publications of societies, etc., to be examined for each regional bureau, and assemble and unify their work for transmission to the central bureau?

2. Enlarge the list of publications examined to include those which only occasionally publish articles which should be entered.

3. Classify in greater detail. Enter a paper under each subject heading of which it treats even though it seem unimportant.

F. B. WEEKS.

SCIENTIFIC JOURNALS AND ARTICLES.

THE *Bulletin of the Michigan Ornithological Club* for December contains articles on the 'Nesting of the White-breasted Nuthatch,' by Edwin G. Mummery; 'Purple Martin Notes from Waynesburg, Pa.,' by J. Warren Jacobs; 'Nesting of the Sandhill Crane in Michigan,' by Edward Arnold. There is the third series of portraits of Michigan ornithologists and other illustrations, including a half-tone of the University of Michigan Museum. Besides the papers above mentioned and the official 'Minutes of Club Meetings,' book reviews and the constitution of the organization there are numerous notes including 'Another Parasitic Jaeger (*Stercorarius parasiticus*) from Michigan,' by Alexander W. Blain, Jr., and 'Nesting of the Cardinal Grosbeak (*C. cardinalis*) in Ingham County, Michigan,' by Professor Walter B. Barrows, being the first authentic record of the breeding of the cardinal in the state. Beginning with 1904 Charles E. Wisner, of Detroit, will assume the business management of the *Bulletin*.

SOCIETIES AND ACADEMIES.

NORTH CAROLINA SECTION OF THE AMERICAN CHEMICAL SOCIETY.

THE seventh annual meeting of the section was held in the chemical lecture room of the Agricultural and Mechanical College, West Raleigh, on November 28, 1903, at 11 A.M., with presiding officer, Chas. E. Brewer, in the chair.

Preceding the presentation of papers a short business meeting was held and the following officers were elected for the ensuing year:

President—Dr. A. S. Wheeler, Chapel Hill, N. C.
Vice-President—Dr. R. W. Page, Raleigh, N. C.
Secretary-Treasurer—C. D. Harris, Raleigh, N. C.
Councillor—Professor W. A. Withers, Raleigh, N. C.
Reporters—W. G. Morrison, West Raleigh, and S. E. Asbury, Raleigh, N. C.

The following papers were presented and discussed:

Action of Ultra-violet Light upon Rare Earth Oxides: CHARLES BASKERVILLE.

See *American Journal of Science*, December, 1903.

On the Action of Radium Compounds upon Rare Earth Oxides and the Production of Permanently Luminous Preparations by Mixing the Former with Powdered Minerals: CHARLES BASKERVILLE AND GEO. F. KUNZ.

Will appear in *American Journal of Science*, January, 1904.

Phosphorescent Thorium Oxide: CHARLES BASKERVILLE.

As previously shown, thorium dioxide is one of the two rare earth oxides (zirconium dioxide being the other) and the only radio-active one which phosphoresces with ultra-violet light. This method of testing was applied to different fractions obtained from the thorium dioxide by volatilization of the chlorides. The three fractions obtained varied as follows: The residue (containing the carolinium) is only faintly phosphorescent, due doubtless to the retention of some thorium. The crystalline sublimate is about ten times as phosphorescent as the original oxide, whereas the very volatile fraction (*weisser Dampff* of Berzelius) does not phosphoresce at all. The last-mentioned preparation contains a little thorium. The radio-activity is greatest in the residue and least in the volatile body. The name *berzelium* is proposed for this third fraction of thorium.

A Simple Device for Illustrating the Periodic Law: CHARLES BASKERVILLE.

The device consists of blocks cut in length according to the atomic weight, taking one half inch for hydrogen. The blocks are planed, presenting flat surfaces corresponding to the valency. The electro-positive and negative properties are indicated by painting blue or red. When these blocks are arranged in an ascending series according to their heights, the resemblance of the properties of the ele-