SCIENCE:

A WEEKLY NEWSPAPER OF ALL THE ARTS AND SCIENCES.

PUBLISHED BY

N. D. C. HODGES,

874 BROADWAY, NEW YORK.

SUBSCRIPTIONS.—United States and Canada..... .....$3.50 a year.
Great Britain and Europe..... 4.50 a year.

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THE AMERICAN ASSOCIATION AT ROCHESTER.

BY D. S MARTIN.

THE recent meeting of the American Association for the Advancement of Science was in all respects a pleasant and successful one. The beauty of the city of Rochester, the absolutely perfect weather that lasted through the entire session, and the careful and systematic arrangements of the local committee all combined to favor the attending members. The number present was in all 455, larger than at any meeting in the past ten years, save the exceptional ones at Philadelphia, New York, and Washington, and ranking seventh in the entire series of forty-one meetings.

The sessions were held in the University of Rochester, whose handsome and commodious buildings are surrounded by a large and very beautiful campus. This latter was a constant source of enjoyment, like the university grounds at Toronto in 1889, where the midday interval could be passed under noble trees and on velvety grass, with the lake breezes to refresh the air. No pleasanter "environment" has ever been enjoyed than at Rochester; while the fine collections of the university in Sibley Hall and the proximity of the celebrated "Ward's Natural History Establishment" and the Warner Observatory gave added scientific interest.

A large number of local geological trips were made to points of interest in the neighborhood. Among these may be mentioned the great gorge of the Genesee and the Lower Falls, where the Clinton and Niagara rocks are so grandly exposed in section; the glacial deposits of the Pinnacle Hills, south of the city, which present some problematical features; and last, but not least, the rock-salt mines at Leroy and Livonia, some twenty to thirty miles southward of Rochester, where the great deposits of solid salt are reached at 1,010 and 1,369 feet of depth, respectively, and immense works are in process of construction. The age of these beds, as is well known, is salina, or perhaps more strictly waterlime.

The regular Saturday excursions arranged by the local committee had also much of a geological character, some going to Niagara, others to the Portage Gorge of the upper Genesee, and others to Stony Brook Glen, all of these being magnificent examples of stream-erosion.

Another matter of local interest was the opening to the members, by courtesy of the family, of the mansion and library of the late Hon. Lewis H. Morgan, president of the association in 1880 and eminent as a writer and student in archæology and ethnology. The visit to his library and collection was an occasion of gratification to many.

To specify or enlarge upon particular papers among the many and valuable ones presented, would be difficult and perhaps invidious. It is, however, but fair to say that especial interest, in sections E (geology) and H (anthropology), was developed in the active discussions that arose regarding two subjects — that of Comparative Geological Chronology as presented by Professor W. J. McGee, and Aboriginal Quarries of Flakable Stone by Mr. W. H. Holmes — both of Washington. Professor McGee's general doctrine is that, using erosion as a measure of time, it is possible to fix somewhat definitely the relative lengths of certain recent geological epochs, and then (as generally admitted on the basis of sedimentation, as by Dana and others) of the older and greater periods. Then, by fixing a date in years for the last glacial epoch, it becomes possible to estimate somewhat the duration of geological time. This last date, based partly on Croll's astronomical theory and partly on various strictly geological data, he would place at about 7,100 years ago. Using this as a unit of estimate, the relative time indicated by erosion, etc., to the "Columbian" deposits, is to this date as 30 ± to 1, giving about 200,000 years to the Columbian (early Quaternary); while the same process will require some fifty times as much, or 10,000,000 years, to the "Lafayette," late Tertiary. It is easy to see from these figures, when compared with the time-ratios for the geological ages as given, e. g., by Dana, how stupendous a time is demanded by Professor McGee's view, and how extreme is the difference between the geological requirements on the one hand and the duration allowed by the physicists and astronomers on the other. The discussion that arose was naturally active, and the subject is one likely to be prominent for some time to come.

Mr. Holmes has been investigating aboriginal quarries extensively, and presents the view that immense quantities of merely unfinished and rejected material at these points exhibit all the characters of so-called "palæolithic" work. He therefore questions strongly the palæolithic age of much that has been so regarded, certainly in this country. The discussion of this and other papers in the section showed a strong tendency to demand more proof, and that strictly stratigraphical, than has often been given in describing "palæolithic" implements and drawing inferences therefrom. Those who accompanied Mr. Holmes a year ago to his aboriginal quarry in the Potomac gravels at Piney Branch, near Washington, will remember that visit with increased interest in view of this important discussion.

Much else might well be mentioned, but space forbids. As a whole, it may be said that few meetings of the association have been more agreeable or more profitable than the one just closed at Rochester.

The decision to hold the next session at Madison, Wis., rather than at Chicago, is generally approved. The place is near enough to give the members opportunity to visit the World's Fair before or after the association meeting, and far enough away to escape the crowd and the distraction; while the provision made for a permanent headquarters for each section of the association during the entire period of the Fair, in rooms set apart for that purpose, is a most happy and desirable arrangement for the comfort and convenience of members visiting Chicago.

AMERICAN BOTANISTS AND NOMENCLATURE.

BY JOHN M. COULTER, PRESIDENT OF INDIANA UNIVERSITY.

THE Rochester meeting of the American Association was a notable one for American botanists. They had so burdened section F with papers in the years that are past that nothing was left but to organize them into a separate section, under the letter left vacant by the deceased Section of Microscopy. This calls for congratulation as testifying to the growing numbers and activity of botanists. Among botanists, however, the meeting was still more notable from the remarkable merging of all differences of opinion into an agreement concerning nomenclature.

This subject has not only brought botanists into conflict with each other, but into disrepute with fellow-scientists. Force seemed to be wasted in upholding varying personal opinions. So far as American botany was concerned, there seemed to be two hostile camps with

reference to nomenclature. How much of genuine good-feeling and exchange of courtesies existed under cover of this public hostility is known only to the botanists themselves. Every one desired a stable nomenclature, but the conservatives held so doggedly to the old, and the radicals ran so persistently to the new, that the result was chaos. It was speedily found that "good usage," which was founded upon individual opinion, could never bring stability in face of the fact that scores of botanists felt equally competent to stand for "good usage."

The culminatian of all these upheavals came in the famous book of Otto Kuntze, which looked like the end of all things to conservatives, and even made the radicals stand aghast. Kuntze wrought better than he knew, and has undoubtedly been largely instrumental in inducing a common movement among European and American botanists to attempt to secure some basis of agreement. His book will probable stand as a good example of what-not to-do in matters of nomenclature. The International Congress of Botanists at Genoa (Sept. 4–11) was a favorable opportunity for presenting the matter, and hence the almost simultaneous appearance of papers from Berlin and New York and Washington for signatures.

At the meeting of the American Association at Rochester (Aug. 17–24) an unusually large number of botanists who deal with nomenclature were present, and they had with them (by letter) the opinions of nearly all who were absent. Not only was the representation very large, but the willingness to concede for the sake of agreement was remarkable, no such fraternal feeling being anticipated by the most sanguine. The discussions were full, free, and informal; every shade of opinion being presented and carefully considered. The principles that were finally adopted were not numerous, and additions will undoubtedly be necessary, but they were adopted with wonderful unanimity, and must commend themselves to anyone who studies them and who understands the forces that were at work in formulating them. Probably not a single individual opinion is fully expressed by these principles, but that resultant of opinions, which must be a far more influential thing.

The selection of 1753, the date of the first edition of Linnæus's "Species Plantarum," as the common point of departure for genera and species, seemed to be conceded almost without debate. This is no place to discuss the many very important considerations which urge the selection of this date; but it will certainly bring a feeling of stability in generic names that no other selection could have brought. It at once remands to silence all that region of uncertainty which necessarily lies beyond the time when species definitely stood as representing genera.

The fixity of the specific name has long been recognized as a working principle, and the only objection has been to making it an *ex post facto* law. But this would at once make two points of departure, and the changes are not so numerous after all.

The homonym section is also a wise one, as chiefly becomes apparent to those who have been compelled to reinstate an old group and so turn adrift and nameless some other group that may hold no relation to it.

It is probable that the section defining what is meant by the publication of a species will be the only one that will meet with criticism. To most of the botanists at Rochester, however, the definition strongly commended itself. The criticism will not be directed at what the definition contains, but at the fact that it omits the distribution of named specimens. This omission, however, can only touch chiefly comparatively recent distributions, for the names of the older classical ones have surely long since been protected by some form of publication which comes under the provisions of the section. The mixture of material under a single number in large distributions is not only well known, but probably to be expected, especially among plants in which the characters are microscopic. Herbarium names are also a great bar to the study of systematic botany, now that it has become a democratic thing, and a provision which compels all specific characterization to be widely accessible is a reasonable one.

It is to be expected that all American botanists will gladly use these principles, as it will remove a feeling of uneasiness in their work, a feeling which has sometimes compelled some of them to make sure of their species by mentioning the names they would bear under the different systems of nomenclature.

Names are things of secondary importance, and the long discussion of non-essentials has seemed wearisome to many, but disputes are usually about non-essentials, are always wasteful of energy, and should always be adjusted.

CURRENT NOTES ON ANTHROPOLOGY.—XIV.

[*Edited by D. G. Brinton, M.D., LL.D.*]

The Selection of Comparative Vacabularies.

THE student whose investigations lead him to the comparison of languages and dialects is constantly impeded by the absence of any uniform schedule of words employed by travellers in securing specimens of them. This is one of the many points on which it would be most desirable that some international agreement could be reached.

The colonial department of the German government has recently published a schedule of about 800 words, which will be adopted by its officers and explorers. The list has been prepared by the eminent linguist, Professor Georg von der Gabelentz, and is published by Mitler & Son, Berlin, under the title "Handbuch zur Aufnahme Fremder Sprachen." It is prefaced by a series of practical observations and directions which will prove of much utility to the collector.

Our government has also an official schedule of words published through the Smithsonian Institution. It is a monument of colossal misconception of purpose and theory-hunting. The terms for kinship alone number 1476, and contain such as the following: "My mother's elder sister's daughter's daughter's daughter's husband!" Instead of being a convenient octavo, which one can slip in his pocket, as is the German, it is a bulky quarto of 250 pages, much of it taken up with quite useless matter. I venture the assertion with confidence that no collector has ever filled up its blanks.

Primitive Man in South America.

The doubts expressed in these "Notes" as to the age of some of the recent discoveries of anthropoid remains in South America (see *Science*, March 11) have been echoed with force by M. E. Trouessart in an article in *L'Anthropologie* for June. The hypothesis of a miocene man in the area of the Argentine Republic or Patagonia, advanced by Ameghino and others, has received a rude shock through the researches of Professor C. Steinmann of Freiburg. According to him, the Pampean formation corresponds to the Loess of North America, and is inter-glacial in date, and not pliocene, as Doering and Ameghino teach; and their alleged miocene is merely a part of the great deposit of the Austral glaciation. This he believes occurred at the same time as the ice age of the northern continent.

This opinion seems to be borne out by a comparison of the fauna of the oligocene of Patagonia with that of the alleged miocene of La Plata. The differences are quite too great for them to belong so near together. Twenty per cent of the Pampean forms are still living species in the same locality, which would be enough to cast grave doubts on its high antiquity. Here, therefore, as in so many other spots on the American continent, the vast antiquity of the remains of man is materially diminished by closer scrutiny.

Race and Culture.

A recent pamphlet by Professor Frank W. Blackmar, of the University of Kansas, on Indian education, brings up the general subject of the attitude of the lower races toward the culture of the highest. This sociological study, carefully prepared from authentic statistics, substantially acknowledges that while in individual instances there is no intellectual inferiority in the Red Race, its members are unable to face the light of civilization and live. Even when educated they must be protected, especially against their own people, but also against the whites. His final words are :—

"The Indian must be drilled, trained, and placed in an occupation which offers protection on the one hand and restraint on