

Pasteurized, it is possible to produce only a mild butter. In order to procure the more pronounced flavor as desired here, the cream is allowed to ripen and a 'starter' removed for the following day. In this way butter having a characteristic flavor may be produced without the use of a pure culture. Professor Conn believed that the ripening of cream takes place in two stages; the first being the rapid growth of certain albumen-destroying bacteria; and the second, the rapid growth of lactic-acid-producing bacteria. In completely ripened cream the latter only are present and constitute the pure Danish cultures which give mild butter. The former seem to be the cause of the stronger flavor desired in America. They do not affect the flavor of the Danish butter, as they are all destroyed in the process of Pasteurization. It is interesting to note that pure cultures are used in this country to a greater extent by the producers of oleomargarine and 'process' butter than by the dairymen.

The second paper of the evening was read by Mr. S. C. Prescott, of the Massachusetts Institute of Technology, who gave an interesting review of 'The Nature of Enzyme Reactions.'

HENRY FAY,
Secretary.

ONONDAGA ACADEMY OF SCIENCE.

THE 54th regular meeting of the Academy was held in the Historical Rooms, March 21, 1902.

Dr. Charles W. Hargitt spoke on 'Bird Migrations and Food Habits,' emphasizing the remarkable exactness in time with which certain of the birds annually arrive. The time, manner and causes of migrations were fully discussed. In speaking of the 'Food Habits' of birds, Dr. Hargitt pleaded for a fair balancing of the results found in the analyses of the stomach contents, as a single berry *vs.* the harmful insects destroyed, and accentuated the importance of avoiding prejudices.

Professor G. A. Bailey spoke of the 'Traits of Birds,' mentioning the cowbird as a case of degeneration. It was gradually giving up

nest-building and becoming more slovenly, as was also true for the American cuckoo. He also spoke of the difference in the shape of birds' eggs and suggested that it was due largely to differences in the kind of nests.

P. F. SCHNEIDER.

SYRACUSE, N. Y.

THE NEW YORK ASSOCIATION OF BIOLOGY TEACHERS.

THE second regular meeting of the Association for 1902 was held in the Board of Education building, on Friday evening, April 4. There was a general discussion on the subject of 'Field Work,' introduced by Miss Kate Burnett Hixon and Miss Mary D. Womack.

G. W. HUNTER, JR.,
Secretary.

DISCUSSION AND CORRESPONDENCE.

AN AMERICAN JOURNAL OF PHYSICS.

I AM not aware whether any discussion has been published, but it must have been keenly felt by everybody associated with the physical sciences, at least, that one of the important issues in the near future is the systematization and consolidation of the journals of American science. It seems to me that what we need is a clearing house or, better, a trust of American research literature, and the pooling in the present instance will be all the more justifiable as it will be nearly pure altruism. Few of the higher order of journals—I mean those which offer non-popular scientific articles—really pay. Many of them are conducted at a loss. Perhaps for this very reason some plan of amalgamation may be feasible.

In physics the conditions* are in every way deplorable. Much, perhaps most, of our best work goes out of the country, with the result that American journals, being in a sense superfluous to the foreigner, are but little read abroad. I have no statistics; what I state are merely the convictions of more or less desultory observations; but I am afraid they are even regarded with just a little superciliousness at home.

*Much to the same effect might be said of chemical and of geological journals, though I naturally shrink from it.

There is some reason for this state of things. If we were brutally frank we might agree that a man with us is hardly eminent until he has been acknowledged as an intellectual commodity in some foreign market. From some points of view this self-distrust and lack of independent judgment is laudable; but there is also a *habit* acquired in such things that is pernicious. It is not so long ago that the Germans went tuft-hunting in France, a custom from which they awoke one day in consternation. They have not gone there since. The question to consider is whether it is not now high time for us, in turn, to awake to a spirit of scientific patriotism. One does not have to read many books to learn with what enthusiasm an Englishman, a Frenchman or a German refers to the real intellectual accomplishments of his countrymen. Is there such pride among us? I doubt it. There is rather a tendency to exhaust all other bibliography first.

Somebody has wisely said that for the English-speaking race there is but one aristocracy, and that it has taken the vigor of England to found it. Certainly the daughters of our millionaires offer much convincing if not eloquent testimony. In a somewhat similar sense, it seems to me that the aristocracy of American scientists also resides in England, though one cannot deny that the continent has some fascination. Our efficient scientific men are apt to outgrow the American Association first, then they outgrow the National Academy, and finally the country itself is altogether too small for them. Their voices reach us in this final stage, harmoniously blended, from across the water. It is all very nice as a well-devised scheme of gradation, but where is the spirit of patriotism in all this? Can we ever hope to reach intellectual maturity in the eyes of the world if we belittle the dignity of our own institutions? Self-confessed incompetency may be a virtue, but one should at least first be sure that the incompetency really exists. If Europe were to close its gates systematically to American scientific research, I believe that no greater blessing could befall us. There is enough good work done here, that if it were only properly centralized and presented in bulk, it would command the attention of the

world. We should then have on our own shores what we now so frequently run for abroad.

The urgent desirability of an attempt at centralization is precisely the point which I want to accentuate. In physics we now have two prominent journals, one of them old and widely distributed, but covering a scope much beyond physics. Its contributors are naturally the older conservative physicists of the country. Recently the desirability of a journal devoted to physics alone was responded to, and a thriving magazine now exists among us, whose contributors are, as a rule, the energetic younger physicists of the country. Between the two journals, I fear, there will be an inevitable breach, for no man who has materially contributed to the older journal will be willing to see that magazine go down, and with it the accessibility of the bulk of his own work.

I mention this now, since with the advent of the Carnegie Institution there will be, almost unavoidably, another center of vigorous publication in physics. I say unavoidably at a venture, for I am quite ignorant as to any plans in that direction. There would then be further divergence, and oh, the pity of it! If, however, it should be in some way possible to unite the two existing journals,* with the consent of all interested and at their instigation, into a single *American Journal of Physics*, under the auspices of the institution, I believe that the greatest good would thereby accrue to the country. It is the national, apart from the sectional, spirit which I am anxious to see fostered. I do not know how the editors of these journals may look on such a scheme. They are my friends, though they may be shaking their fists at me now; but I am innocent of guile. If through the Carnegie Institution we could get an *American Journal of Physics*, continuous with the physical part of the *American Journal of Science* and of the *Physical Review*, definitely established, and if every

* I do not refer, of course, to journals with a unique purpose like *SCIENCE*, or the *Astrophysical Journal*, or *Terrestrial Magnetism*, or the *Circulars* of universities, etc. It is the overlapping of journals of the same kind that I have wholly in mind.

American physicist, including those who are either ashamed of their birthright, or of so vast a stature and cast in such an heroic mould that they must seek their compeers abroad—if all American physicists were to unite to publish in a national journal only, I believe the result would mark an epoch in the history of the importance of American contributions to physics.

CARL BARUS.

BROWN UNIVERSITY,
PROVIDENCE, R. I.

THE CENTENARY OF HUGH MILLER.

ON the 10th of October, 1802, Hugh Miller was born at Cromarty, Scotland.

The folk of that picturesque town, whose surroundings were the inspiration of Hugh Miller's remarkable achievements in science, literature and philosophy, and the Scottish people generally, have proposed to commemorate this one-hundredth anniversary of the birth of their distinguished countryman by erecting in the town of his birth a permanent memorial of his work and worth.

It is now hoped that this proposition will meet a response sufficiently cordial and generous to justify the foundation of a Hugh Miller Institute which will serve, not alone as a resting place for the personal relics of the man, but the home of scientific collections and a library. The anniversary day, October 10, 1902, will also be commemorated by special ceremonies.

The local committee to carry into effect the centenary project has issued a circular in which the foregoing propositions are set forth, and which also contains this statement:

"The proposal has the support of the following:

"Lord Balfour of Burleigh, Secretary for Scotland; Sir Archibald Geikie, F.R.S., LL.D.; Professor Masson, LL.D.; Sir Walter Foster, M.P.; Sir John Long, M.P.; C. J. Guthrie, K.C., Sheriff of Ross and Cromarty; W. C. Smith, LL.B.; W. Robertson Nicoll, LL.D.; Arthur Bignold, Esq., M.P.; Principal Rainy, D.D.; Alexander Whyte, D.D.; Colonel Ross, C.B., of Cromarty; The Provost and Magistrates of Cromarty; Mr. James Barron, *Inverness Courier*."

No American geologist of the generation now in the full swing of its activity can have

failed to come, in his early days, under the inspiration of this unique man. When textbooks of geology were few and dull, Miller portrayed in most delightful tints the beauties of the science and the charm of its philosophy. To intelligent readers of English-speaking peoples he unfolded the science in a new light; in diction his writings are a model still unattained and seldom approached by his successors; in vigor, relentless sequence, charm of anecdote and reminiscence they will never lose attractiveness and influence.

The undersigned has been asked by Mr. J. Bain, Hon. Secretary of the Hugh Miller Centenary Committee, to act as its agent in soliciting and receiving subscriptions in the United States for the end stated. Remittances will therefore be gladly received by the undersigned and acknowledgment of the same will be made by the Hon. Secretary. Checks or other orders may be made payable to

JOHN M. CLARKE,
For the Committee.

STATE HALL, ALBANY, N. Y.

THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE. SECTION B, PHYSICS.

ATTENTION is called to the coming meeting of the American Association for the Advancement of Science, in Pittsburg, Pa., June 28 to July 3. The accessibility of Pittsburg from all parts of the country and the interest which attaches to the great manufacturing industries located there, add much to the already favorable prospects for a large and important meeting. The proposed meeting of the American Physical Society in affiliation with the American Association offers an additional attraction to physicists.

It is hoped that a full and interesting program may be secured in Section B and to this end you are requested to send titles and abstracts of papers, available for this purpose, to the Secretary of the Section. Titles should be sent in time to appear in the preliminary program which will be issued several weeks prior to the meeting.

E. F. NICHOLS, *Secretary*,
Hanover, N. H.
W. S. FRANKLIN, *Vice-President*,
South Bethlehem, Pa.