

the other, the associate, or corresponding members.

The dues may be so assessed as to assure the quality of the publication, and the form of association with local societies may be so arranged that a slight addition to the local dues will make the local member an associate of the general society, and permit him to receive its publications at a reduced rate.

If the monthly magazine be kept at the high standard which we wish to see, it will be possible to have a salaried editor with training such as to assure the success of the magazine, and if the high standard be maintained, it will not seriously interfere with the local journals. There will be an audience for each quality.

As to the title, perhaps it will be permissible to make a different arrangement of the words which are necessary to properly describe the Society—for instance, the Geographical Society of America. But whatever the title, the idea is right, and the time is ripe, and if Professors Russell and Davis will take the lead, we shall yet have a general society in working order in time to welcome the International Congress in 1904.

J. PAUL GOODE.

UNIVERSITY OF PENNSYLVANIA.

#### THE WORD 'ECOLOGY.'

TO THE EDITOR OF SCIENCE: It is a good example of the well-known fact that the dictionaries—even the best of them—do not quite keep up with the progress of the language, which Mr. White has found in his search for the word 'ecology' (SCIENCE, March 28, p. 511). In its older form—œcology—this word occurs in the 'Century' and 'Standard' and no doubt in the other dictionaries referred to. The word was formally brought to the attention of American botanists in the Madison Botanical Congress, held in Madison, Wis., August 23 and 24, 1893, where the anglicized spelling was recommended and adopted. This action was in accordance with the well-known usage which drops the *o* in similar words, as in *economy* (instead of the older *œconomy*), *ecumenical* (*œcumenical*), *edema* (*œdema*), etc. The word ecology has been in quite general use in the botanical

world for the past eight years, and in its older form it has been known in certain German biological works for at least a quarter of a century. It appears indeed that Ernst Haeckel first used the word, in his 'Generelle Morphologie,' as long ago as 1866.

CHARLES E. BESSEY.

LINCOLN NEBR.,

March 31, 1902.

It is stated by a correspondent in a recent issue of SCIENCE that the word 'ecology' is not in the dictionaries. The word 'œcology' will, however, be found, so spelled in accordance with its etymology. It is only after words become universally known that these diphthongs are dropped, *e. g.*, paleontology, but we still have æsthetics, archæology, etc. I took pains, however, to have 'ecology' put in the Supplement to Webster; with a cross reference to 'œcology.'

LESTER F. WARD.

TO THE EDITOR OF SCIENCE: In the issue of SCIENCE for March 28, you ask for information respecting the word ecology. Under the guise of œcology, it is in quite common use among biologists, and is in fact used by many as a substitute for biology or rather a special phase of it. For example, what is called by many the biology of insects is called by others the œcology or ecology. (Ecology and œcological can be found in any recent dictionary; ecology and ecological are the same words with the substitution of *e* for *œ* in accordance with analogy exemplified by economy, economical, etc., which were formerly spelled œconomy, œconomical, etc. The words in their new guise will appear in the supplement to the 'Standard Dictionary.'

THEO. GILL.

COSMOS CLUB,

March 28, 1902.

TO THE EDITOR OF SCIENCE: In reply to your inquiry in SCIENCE of March 28 (page 511) concerning the word ecology, it is to be said that the word occurs in the 'Century Dictionary,' but spelled œcology. It was coined by Haeckel in 1866 (in his 'Generelle Morphologie der Organismen'), but has come into general use only within the past few years. In Germany it is still spelled (E)kologie, but in

this country it is always ecology. It signifies the science of the adaptation of organisms to their surroundings, a field of study in which botanists have been more active than zoologists. Ecology is prominent in every elementary botanical text-book published recently in this country, and every schoolboy if taught by a modern teacher, knows something of it.

W. F. GANONG.

NORTHAMPTON, MASS.,  
March 29, 1902.

THE dictionaries are well acquainted with *œcology*, but have not yet discovered the change to *ecology*. This is clearly an oversight, for they are usually glad to aid in the improvement of spelling.

G. K. GILBERT.

[Many other letters have been received pointing out that the word 'œcology' is to be found in the dictionaries. If it did not occur to our correspondent, who is the editor of the New York *Evening Post*, that 'ecology' should be looked up under 'œcology,' it would not to others unacquainted with the term or its etymology; and he appears to have supported his main contention, which was that technical terminology is a serious difficulty in the way of reading scientific literature by those who are not experts in the given science.—EDITOR.]

#### CURRENT NOTES ON METEOROLOGY.

##### FOG IN SWITZERLAND.

As a thesis for the degree of Ph.D. at the University of Bern, Gotfried Streun has published an elaborate report on the fogs of Switzerland (4to, Zurich, 1901). The observations used as a basis for this study were made in 1897 and 1898, and the work was carried on under the supervision of Professor Brückner and of Dr. Billwiller. The lowlands have a maximum of fog in the morning, as a result of the nocturnal cooling of the lower atmosphere, while the mountain summits show a comparatively uniform distribution of fog through the day. A weak afternoon maximum at the latter stations is due to the formation of cumulus clouds in the ascending valley winds. The annual period of fogs is well

marked in the lowlands and lower valleys, where there are autumn and winter maxima, but on the mountain summits there is hardly any trace of annual periodicity. As regards the average duration of spells of foggy weather, it appears that single days with fog occur most frequently at the lower levels, where the periods of greatest length come in fall and winter. On the Säntis the longest periods of fog come in spring and summer. At these altitudes continuous fogs frequently last for more than twenty days, while on the lowlands a fog of eight days' duration is a rarity. The general weather conditions under which lowland fogs are formed in winter are distinctly anticyclonic, while those accompanying high-level fogs are distinctly cyclonic, in both summer and winter. In connection with his study of the conditions of fog occurrence, the author finds confirmation of the Hann theory of cyclones. Numerous charts accompany this monograph. They show the frequency of foggy days, and the occurrence of fogs during a remarkable foggy spell from October 26 to November 25, 1897. The effect of topography on the development of fogs is strikingly brought out by these charts.

##### HAIL PREVENTION.

IN the Report of the Chief of the Weather Bureau for 1901 (Annual Reports, Department of Agriculture) Professor W. L. Moore makes a protest against the spread in the United States of the popular delusion that destructive hail storms can be successfully prevented by cannon-firing. Some little time ago Drs. Pernter and Trabert, the well-known meteorologists of the Vienna Observatory, were invited by the Austrian Department of Agriculture, and by the inventor of one of the methods of cannonading, to study the conditions and results of the bombardment on the ground. The investigation which was carried out was as complete as it was possible to make it, and the sum and substance of the report was that nothing positive could be said as to the value of the shooting. Scientific men who cannot visit the scene of the cannonading themselves, and who need any authority for their doubt as to the efficacy of the 'hail shoot-