

## ÆCOLOGY.

TO THE EDITOR OF SCIENCE: I share Professor Ganong's surprise that, after the word 'ecology' had been fully discussed in your columns by many leading naturalists (of whom Mr. Ganong was one), you should have admitted my belated remarks. I can only suppose that you recognized, what Mr. Ganong seems to have forgotten, that I am not responsible for the intervention of the Atlantic Ocean. Still I confess that I should not for the moment have forgotten the difference between the American and English languages. I can only say that if the spelling 'ecology' be not a vagary, the fact is to be regretted, since such contractions undoubtedly mislead those who wish to follow the excellent example of one of your correspondents and to use the Greek lexicon. I do not recognize the parallel with 'economy,' a word which came to us through the French, and which is a familiar everyday word, whereas 'æcology' is, and no doubt will long remain a purely technical term. I infer that here I have the support of Mr. Lester F. Ward.

As to the meaning of 'æcology,' I am glad to find myself in entire agreement with Mr. Ganong and Dr. Theodore Gill. But when the former belabors me for bringing a false accusation against botanists, in saying that they have restricted the meaning of the term, I must defend myself. I do not profess to speak with the authority of Mr. Ganong, whose studies in this branch of natural history we all admire; I speak merely as a casual skimmer of such publications as SCIENCE. It certainly appeared to me that the two authors whose papers suggested the recent discussion, namely Mr. H. S. Reed and Mr. H. C. Cowles, used the term as meaning 'ecological plant-geography.' The former entitles his paper 'The Ecology of a Glacial Lake'; does Mr. Ganong seriously maintain that this means 'The science of the adaptation of a glacial lake to its surroundings?' The latter (whatever he may have said 'in his elaborate paper' here distinctly asserted that the 'phytogeographic' was one of the two aspects presented by 'all ecological problems,' and his

paper dealt solely with this aspect. Your own editorial explanation of the term laid even more stress on geographic distribution. Surprised at this, I consulted one or two botanical friends, who assured me that by 'æcology' they really did understand the study of plant-associations. I therefore turned to Mr. Robert Smith's paper in *Natural Science* and found that he did not use the term 'æcology' in the same sense as the botanists just alluded to, but used instead the phrase 'æcological plant geography,' which I quoted in my previous letter. Mr. Ganong need not have hunted up all the instances of the words 'ecological' and 'æcology' in Mr. Smith's paper. I admit that the latter does occur once (Mr. Ganong says 'four times'). But my whole point was that Mr. Smith used it with its full and correct meaning, and that he did not mention it as an equivalent for the subject of his paper.

I trust Mr. Ganong will now see that, though my ignorance of botanical literature may have led me to give too extended a form to my statement, still the use of the term in a restricted sense does actually obtain among botanists. Indeed I am assured by a botanical colleague that such use is increasing. I hope therefore that some of Mr. Ganong's hearty blows will have glanced off me on to the shoulders of the real offenders.

The whole object of a technical terminology is precision and unambiguity of language. The moment a term ceases to be used in the strict sense of its original proposer, this object is defeated.\* The fact that there are signs of such a change in the case of the word 'æcology' justifies a protest before it is too late.

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## MASS AND WEIGHT.

TO THE EDITOR OF SCIENCE: I notice in your issue of June 13, a communication from Dr. Goodspeed, on the subject of 'Mass and Weight.' I am glad that attention is called

\* Professor W. M. Wheeler uses 'Ethology' "in the place of the less satisfactory 'ecology'" (SCIENCE XV., p. 774, May 16, 1902). Why is 'ecology' less satisfactory, if not for this very reason?