

the term 'beryllium' has been used exclusively in the index of the *Journal of the Society of Chemical Industry* and, so far as I have noticed, in the subject matter as well. On the other hand, the *Chemical News* uses the two words interchangeably in its articles, abstracts and index, part of its articles being indexed under one head and part under the other, and, unfortunately, without any attempt at cross reference. In America only one original article has appeared on the subject in many years which has used 'glucinum.' The *American Chemical Journal* has used 'beryllium.' The *American Journal of Arts and Sciences* for some years has used 'beryllium' and it is here that some of the best articles have appeared. The *Journal of Physical Chemistry* uses 'beryllium.' The *Journal of the American Chemical Society* has allowed its contributors to choose, and one article and two abstracts have appeared on 'glucinum' since its publication.

To play on Dr. Howe's own words, I think that with American, English, German, Swedish, Danish, Dutch, Russian, Italian, etc., journals and chemists using 'beryllium,' we can afford to let the French cling to 'glucinum' (not 'glucinum') a little while longer.

It is true that the committee appointed by the American Association on the Spelling and Pronunciation of Chemical Terms did recommend 'glucinum,' and so far as I can find its members are about the only American chemists loyal to the term. I think it highly unfortunate that their recommendations as to spelling and pronunciation have not been more generally adopted in our chemical literature and language, but it is true they have not and in regard to 'glucinum' it is my humble opinion that they were wrong.

CHARLES LATHROP PARSONS.

NEW HAMPSHIRE COLLEGE,
January 23, 1905.

THE ENGLISH SPARROW AS EMBRYOLOGICAL
MATERIAL.

DOUBTLESS many readers of SCIENCE who conduct courses in vertebrate embryology, in which the chick is one of the forms studied, have spent laborious hours in mounting serial

sections of embryos of from five to eight days' development. The chick embryo of this age has reached so considerable a size that, even though the sections be cut comparatively thick, a complete series will fill a large number of slides. Of course type sections may be selected, and slide-room thus saved, but it takes nearly as long to prepare such a selected series as it does to mount the entire series.

A convenient substitute for the later chick embryos may be found in the ubiquitous and generally disliked English sparrow. There are probably few localities where the nests of this little pest may not be found; frequently they are so numerous that a large number of eggs may be obtained without difficulty.

So far as size is concerned, the sparrow, even at the time of hatching, is small enough to section without especial difficulty, and at the stage corresponding to the eight-day chick it is so small that a complete series may be mounted on a comparatively small number of slides.

Many teachers have probably made use of this source of supply of material to illustrate some of the phases in avian development that are usually read about in the text-books without being studied in the laboratory, but there may be some who have not thought of this method of procuring material and at the same time of helping to reduce the English sparrow population.

The idea is not original with the writer, but he is sure that it is not patented.

ALBERT M. REESE.

SYRACUSE UNIVERSITY.

DELUC VERSUS DE SAUSSURE.

TO THE EDITOR OF SCIENCE: In his letter of December 29 (SCIENCE, 525, p. 111), Dr. Eastman, returning to the question as to whom priority in the use of the term 'geology' properly belongs, says:

I am unable to see why Von Zittel was not scrupulously exact in his handling of facts when crediting Deluc with prior use of the term geology as compared with De Saussure.

His letter bears internal evidence that, like me, Dr. Eastman has been unable to obtain the 1778 edition of Deluc's letters, which alone

can be assumed to prove that priority. If this is the case, he is not justified in assuming that his quotation from the edition of 1779 is identical in wording with the original statement in the preface of 1778. This quotation is: 'L'usage ordinaire a consacré le premier des ces mots (cosmologie) dans le sens où je l'emploie.'

Geikie's statement with regard to the 1778 edition is: "The proper word he admits should have been geology, but he could not venture to adopt it because it was not a word in use."

Eastman, assuming that the statement in the second edition was word for word the same as that in the first edition, says that Geikie's rendering is not justified.

I reply that his assumption is unfounded, for so prolific a writer would be more likely than not to vary the wording of his phrases on a second writing. But even if the assumption were correct, Eastman's own rendering, 'the word cosmology is more generally used in an equivalent sense' is as free in one direction as Geikie's in another.

Entirely aside from this question, which is somewhat on the hair-splitting order, it is to be observed that my statement was, that De Saussure was the first geologist (in the modern sense, as Dr. Eastman kindly added for me) to use the word geology in speaking of his science. There is no question that De Saussure was such a geologist. Let us see, then, what authorities like Von Zittel and Geikie think of Deluc in this regard.

Von Zittel qualifies him as a remarkably busy but flighty observer, and a fantastic scribbler whose publications have, for the most part, fallen into deserved oblivion. His use of the term geology he says is first suggested in the preface to a volume containing fourteen letters addressed to Queen Charlotte of England, whom he served for many years as reader and traveling companion. This preface, he says, makes the pompous announcement that the book will contain the groundwork of a cosmology or earth history, but when examined the letters are found to be mostly filled with long-winded descriptions of the lands and peoples visited and very little of what the preface promises.

Geikie classes him with Richardson, the believer in fossiliferous basalt, Kirwan and others of that ilk, and says:

But though these men wielded great influence in their day their writings have fallen into deserved oblivion. They are never read save by the curious student who has leisure and inclination to dig among the cemeteries of geological literature.

S. F. EMMONS.

SPECIAL ARTICLES.

NOTE ON THE VARIATION OF THE SIZES OF NUCLEI WITH THE INTENSITY OF THE IONIZATION.

1. I shall use the word fog-limit, to denote the difference (δp) of pressure between the outside (constant pressure) and the inside of the fog-chamber, to which sudden exhaustion must be carried in order that condensation may just occur in dust-free air saturated with moisture. It is obvious that if the fog-limit is to be used as a criterion, the result depends in all cases (cæt. par.) on the particular type of fog-chamber used and all statements are to refer to a given type.

2. Nuclei of any size may be produced in dust-free moist air by varying the time and the intensity of the exposure to X-ray or other similar radiation. A particular fog-limit and hence a particular size of nucleus is reached for each case until the fog-limit vanishes. Thus in my experiments for

Dust-free air (radium at infinity)	$\delta p = 24.5$
Radium (10,000 X, in thin sealed glass tube)	
at 200 cm. from fog-chamber,	21.5
at 100 cm. " " "	20.8
at 45 cm. " " "	20.2
Radium, do., within the fog-chamber	19
X-ray bulb	
at 35 cm. from fog-chamber, exposure 2 min. $\delta p = 19$	
at 10 cm. " " " " 2 " "	18
at 10 cm. " " " " 4 " "	17
at 2 cm. " " " " 2 " "	15.5
at 2 cm. " " " " 4 " "	10
at 2 cm. " " " " 10 " vanishing	
at 2 cm. (stronger radiation) " 5 " "	5
at 2 cm. (still stronger radiation) " 5 " below 4	

To these may be added the fog-limits corresponding to the more gradual decay of excited radio-activity (radium 10,000 X, in thin hermetically sealed aluminum tube placed for 15 or 30 minutes within the fog-chamber).

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DELUC VERSUS DE SAUSSURE

S. F. Emmons

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