instruments. The extra observations from the new, and newly equipped, stations will amplify greatly the information on which the forecasters at the six district centers of the Weather Bureau may draw in making daily weather forecasts for the United States.

THE first number of *Population Index,* a guide to current demographic materials for students, research workers and teachers, appeared in January. The *Index* is published quarterly by the School of Public Affairs, Princeton University, and the Population Association of America. It continues the association bibliography, "Population Literature." The current number contains two new sections, Current Items and Statistics, in addition to a bibliography covering more than 400 recent books and articles.

A QUARTERLY journal devoted to the integration of the scientific disciplines and to the study of the interdependence of science and society has recently begun publication under the title *Science and Society: A Marxian Quarterly.* The editors are A. E. Blumberg, E. B. Burgum, V. J. McGill, Margaret Schlauch and B. J. Stern. The foreign editors are J. D. Bernol, University of Cambridge; Lancelot Hogben, London School of Economics and Political Science; Paul Langevin, Collège de France; H. Levy, Imperial College of Science, London; H. J. Muller, Institute of Genetics, Leningrad; Maurice Dobb, The Marshall Library, Cambridge, and Joseph Needham, of Cambridge. Editorial communications may be addressed to the managing editor, W. T. Parry, 6½ Holyoke St., Cambridge, Mass.

FIFTEEN acres of woodland have been added to the Connecticut Arboretum at Connecticut College, New London, by a gift from forty donors interested in the development of the arboretum. The deed of gift specifies that the property shall be set aside forever as a wild-life preserve. The arboretum covers seventy acres within the college property and has been set aside for the preservation and propagation of the native plant life of Connecticut. Garden clubs, horticultural societies and other organizations and individuals throughout the state are cooperating with the college in its development.

DISCUSSION

ETYMOLOGY AND PRONUNCIATION OF THE WORD "OESTRUS" AND ITS DERIVATIVES

THIS word seems to offer more difficulties as to pronunciation and spelling than any other technical word in biology. Derived originally from the Greek οἶστρος, signifying the gadfly, and taken over into Latin as *oestrus,* the word came secondarily to mean frenzy or strong desire. The Latin derivative is properly of masculine gender, following the Greek, but we are told by Tyson[1] that some grammarians gave it the neuter form *oestrum* as early as 400 A.D. In its more general senses the word became naturalized in English with the spelling *oestrum* and has been so used in prose and poetic literature by many writers (see Tyson's article and the Oxford English Dictionary).

In the original Greek and Latin the meaning of the word already included, among other forms of excitement, the recurrent sexual impulse of animals. We owe its present definite technical use, however, to the late Walter Heape,[2] whose analysis and terminology of the phenomena of the reproductive cycle form the basis of research on that subject in the present century. As pointed out by Asdell,[3] Heape was not using the well-naturalized English word *oestrum,* which in English signifies any form of recurrent excitement (*e.g.,* the poetic frenzy), but was deliberately adopting the Latin word *oestrus* for use as a specific technical term meaning in English "periodic sexual excitement of the female." Writers having the latter significance in mind should, for the sake of precision, respect the difference and use the word *oestrus.*

It is scarcely necessary to point out that the nominative form is *oestrus,* and the adjectival form *oestrous* (*cf.* fungus, fungous; mucus, mucous).

As to pronunciation, the Greek and Latin diphthong of the first syllable has become in English merely a digraph, and in England is pronounced like long *e,* as in *thief.* Wyld's Dictionary of "Received Standard English" gives this pronunciation only. The Oxford English Dictionary gives also the short *e,* as in *yet,* as an alternative pronunciation, but by the time the Shorter Oxford Dictionary reached the letter O, the compilers had discovered that the short *e* is an American usage. The word *oestrum* seems to have first appeared in the American dictionaries in the 1860 edition of Worcester and the 1864 Webster. In both cases the short pronunciation of *e* was alone given. Webster continued to give preference to this pronunciation, but since the 1909 revision cites also the long *e* as a non-preferred pronunciation. The Century Dictionary of 1911 gives the long *e* only, but on the other hand the 1913 Funk and Wagnalls gives the short *e* only.

It is evident, therefore, that the pronunciation of the non-technical word *oestrum,* and consequently of the technical term *oestrus, oestrin, oestrogenic,* etc., is

[1] Stuart L. Tyson, SCIENCE, 512: 74, 1931.
[2] Walter Heape, *Quart. Jour. Micros. Sci.,* n.s., 44: 1, 1901.
[3] Sidney A. Asdell, SCIENCE, 75: 131, 1932.

following a trend of American speech by which words beginning with the digraph *oe* tend more and more to be given the short vowel sound. The name *Oedipus* is another example. This tendency is reinforced by a corresponding tendency in spelling, to which H. L. Mencken calls attention in his book, "The American Language," namely, the conversion of decayed diphthongs into simple vowels, examples being *ecology, ecumenical, eon.* The editorial staff of the *Journal of the American Medical Association,* for example, has placed the word *oestrus* on a list of such words to be spelled without the *o,* a decision which is sure to influence the usage of American medical and biological writers. This mode of spelling has already been accepted as a variant in the 1934 revision of Webster's Dictionary, and will undoubtedly influence American pronunciation still further in the direction of the short *e.* In American speech, therefore, the short *e* should be used in pronouncing the word *oestrus* and its derivatives.

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CARBONATION VS. CARBONATIZATION

IN recent years, there has been an increasing tendency to use the term "carbonatization" for "carbonation." The writer has been unable to find the initial use of "carbonatization," but it appears in Lindgren's "Mineral Deposits" (1913, p. 70), and in later editions.

Since 1913, "carbonatization" has appeared in various geology text-books and in various publications.[1] In most of these references, the term is used as indicating carbonation (*i.e.,* the union of carbon dioxide with some base) that takes place during weathering. It is also used for the same process in connection with the deposition of ores by hot waters. This note is a protest against the use of "carbonatization" for simple "carbonation" for the following reasons:

(1) The formation of a salt by the union of carbon dioxide with bases has long been, and still is, called "carbonation" by chemists. This is also the meaning given by all standard dictionaries, such as the Oxford, Standard, Century and Webster.

(2) The suffix "ization," according to all the above-mentioned dictionaries, is used to form nouns of action from verbs ending in "ize," such verbs having been formed by adding the suffix "ize" to nouns or adjectives; the verb meaning to be or do the thing denoted by the noun or adjective (Century Dictionary). None of the authors using "carbonatization" have used the verb "carbonatize," which would seem to indicate that such a word had not been found practicable.

(3) The word "carbonatization" is a clumsy, non-euphonious term, whereas "carbonation" is much simpler.

(4) In all the above references, the authors use the term "carbonatization" along with "hydration" and "oxidation," both of which latter terms they use in the same sense as chemists do. To be consistent, those who use "carbonatization" should use "hydratization" and "oxidatization." Pronunciation of any of the three words is a laborious process. Adding letters to words already in good usage and of sound meaning is not a desirable or worthwhile practice.

(5) The use of "carbonation" is preferred by most authors of text-books on geology, as is shown by the following list:

Chamberlin and Salisbury, "Geology," Vol. 1, pp. 43, 429, 1906.

H. F. Cleland, "Geology, Physical and Historical," pp. 35–37, 1916.

Hatch and Rastall, "Text-book of Petrology, The Sedimentary Rocks," pp. 155, 206, 313, 1913.

H. W. Shimer, "An Introduction to Earth History," p. 42, 1925.

J. H. Bradley, "Earth and Its History," p. 53, 1928.

G. W. Tyrrell, "Principles of Petrology," p. 173, 1926.

W. A. Tarr, "Introductory Economic Geology," p. 62, 1930.

Emmons, Thiel, Stauffer and Allison, "Geology," pp. 39–41, 1932.

W. B. Scott, "Introduction to Geology," p. 203, 1932.

Branson and Tarr, "Introduction to Geology," p. 62, 1935.

(6) The three terms, "hydration," "oxidation" and "carbonation," as used in reference to the respective processes taking place during weathering and rock alteration, by any process, have been in use so long and indicate so simply the nature of the reaction involved with each agent that there would seem to be little justification for introducing a hybrid like "carbonatization," which adds nothing to the previous good usage.

(7) The suffix "ization" has been added to various nouns (*e.g.,* pyrite → pyritize → pyritization), in discussions of sundry types of mineral deposits, to describe processes for which no previous word had been used. Many of these words are euphonious and desirable, but "carbonatization," being neither and being wholly unnecessary in the face of the priority of "carbonation," should, in the writer's opinion, be dropped.

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[1] W. H. Twenhofel, "A Treatise on Sedimentation," p. 15, 1932; H. Ries, "Elementary Economic Geology," p. 213, 1930, and "Economic Geology," p. 491, 1930; R. H. Rastall, "Geology of the Metalliferous Deposits," pp. 138, 142, and 162, 1923; C. R. Longwell, A. M. Bateman and others, "Foundations of Geology," p. 24, 1931.