maintain the practice of capitalizing the initial letter of all German nouns. This could not be done in a table such as Table 4, but the nouns and their genders may be indicated by the italicized letters *m, f,* or *n* immediately following.

"Sch" is not the only offending prefix. The same book has 7 pages of words beginning in "ab," 4 pages "auf," 7 pages "be," 2 pages "durch," 4 pages "ein," 1 page "gesch," 3 pages "uber," 6 pages "un," 10 pages "ver," 3 pages "vor," etc. This is not a defect peculiar to this book, nor to the German language which Mark Twain reviled so heartily in his story of the "Hottentotenmutterattentäterbeutelrattenlattengitterwetterkotter." On the other hand all dictionaries including those of English words suffer the same shortcoming. So far as is possible let common words and syllables be omitted, and the distinguishing letters be printed in bold face or capitals, and reading such books will become a pleasure. Thus the chief obstacle to foreign language reading will disappear, wasted mental effort and eye-strain will be reduced, and the publishers will gratify their ambition to make two dictionaries flourish where one languished before.

NELSON W. TAYLOR

UNIVERSITY OF MINNESOTA

TERRACES IN THE CONNECTICUT VALLEY

THE terraces of the Connecticut Valley in the region of Springfield and Hartford, studied at various times by Dana, Emerson, Alden and Fairchild and more recently investigated by the writer,[1] continue to offer new material for discussion. The writer considered these features to be prevailingly horizontal and chiefly of lacustrine origin, only minor individuals being overlain by fluviatile deposits with profiles inclined down-valley. Recently the writer, assisted by R. M. Logie, ran a level line with plane-table and stadia rod on the terrace at approximately 60 feet, extending with a few gaps through a distance of 22 miles along the eastern side of the river between Glastonbury, Connecticut, and the Massachusetts state line. This terrace was found to be essentially horizontal, with a maximum relief of 18 feet, the highest parts being arranged opposite the mouths of two tributary streams in such a way as to suggest local fans built above the general surface of the terrace.

Prior to this time Messrs. Hitchcock and Wood, of the American Geographical Society, at the suggestion of Professor Douglas Johnson,[2] ran a more extensive series of Wye-level lines on several conspicuous terraces on both sides of the river between Windsor, Connecticut, and the Massachusetts line, and on extensive terraces in the Quinnipiac Valley. Profiles constructed from these level lines show the terrace tops to be broadly irregular with inclinations generally down-valley. Some of the profiles have distinct breaks at the levels at which the writer has described terrace surfaces; in a number of others the down-valley slope continues unbroken through these levels. These profiles appear to the writer to indicate fluviatile deposition under the control of several base-levels and the writer considers that the terraces they represent consist of fluviatile material overlying lake deposits, while admitting that the fluviatile material is more widespread than he had formerly believed.

During a recent two-day field conference with the writer Professor Johnson pointed out, on some of the broad lower terraces east of the river, shallow curved channels lying generally against eroded faces of the next higher terraces. These resemble the channels found on many flood-plains and appear to indicate that the surfaces of the terraces on which they occur have been fashioned by streams and that the faces, previously interpreted by the writer as constructional, are chiefly erosional, whatever their original character may have been. The channels were not recognized as systematic features by the writer until Professor Johnson called attention to them.

Sections exposed in sand and gravel pits in these broad lower terraces exhibit current-bedding. Some sections show varved clays and silts. A few exposures show sections of what the writer has described as foreset beds exposed through thicknesses of a few feet, with their bases concealed. Consideration of sections such as these raises a question as to the difference to be expected between deposits made by shallow aggrading streams, and deposits made in narrow lakes strongly affected by currents. Perhaps the only positive criterion for stream deposits in such a comparison is the presence of buried channels visible in exposed sections. One such channel, a few feet in diameter, is exposed in section in the lowest terrace east of the Connecticut River, two miles north of East Windsor Hill, Connecticut. But since deposits built up above the surface levels of lakes by streams that succeed them might be expected to include filled channels, the lower as well as the upper parts of the sections should be examined for these features.

In this connection Professor Johnson has suggested that my published statement that deltaic foresets are the predominant type of stratification in the terrace of Connecticut is misleading. Even the sections showing foresets 15 feet or more in thickness have current-bedded topsets. The writer has included in the

[1] "The Glacial Geology of Connecticut," *Conn. Geol. Survey Bull.* 47, 1930.

[2] Acknowledgment is made for permission to quote the results of this levelling, made as part of a general study of coastal terraces by Professor Johnson under the joint auspices of the American Geographical Society, the Carnegie Institution and Columbia University.

deltaic category, without any intent to mislead, foresets exposed for only a few feet vertically and overlain by current-bedded deposits, in some exposures reaching a considerable thickness, such as are illustrated in Pirsson and Schuchert's "Textbook of Geology," Part I, Fig. 95. 1929 Edition. It is true, however, that current-bedding predominates in a majority of the exposures. The writer has roughly estimated at 25 per cent. the proportion of exposures showing undoubted deltaic structure, whereas Professor Johnson would make the figure much lower.

As far as the lake- or stream-origin of a considerable part of the material composing the terraces in the Connecticut and Quinnipiac valleys is concerned, the presence of varved clays and silts in quantity beneath the sands in the lower terraces seems clearly to indicate lacustrine deposition. In at least two excellent exposures the clays grade upward through varved silts into sands, which in turn exhibit delicate current-bedding. A detailed and specific study of the relation of clays to sands throughout the valley might bring to light important additional data.

The facts indicated by Professor Johnson involve significant reinterpretations in the conclusions reached earlier by the writer, but they do not appear to the writer to preclude the belief that the lower terraces like those at higher elevations were formed while remnants of the last ice sheet still lay in the valley. The discrimination of topographic features whose relief is scarcely perceptible or imperceptible to the eye is admittedly a difficult matter and it is to be hoped that further study may establish more clearly the details of the late-glacial history of the Connecticut Valley.

RICHARD FOSTER FLINT
YALE UNIVERSITY

SCIENTIFIC APPARATUS AND LABORATORY METHODS

A MODIFICATION OF THE OSBORNE-MENDEL SALT MIXTURE

NUTRITION workers who have used the Osborne-Mendel salt mixture[1] in the preparation of experimental diets for rats will agree that this is a bothersome mixture to prepare. Not only must great care be exercised in the addition of the strong acids to the carbonate mixture, but a slow evaporation process is necessary. The removal of the hard mass of dehydrated salts and subsequent grinding present further difficulties.

The authors have developed a salt mixture which, in so far as the metallic elements and mineral acids are concerned, is of the same composition as that of Osborne and Mendel. The mixture is prepared from readily available salts, and requires no evaporation or dehydration. Its content of water of crystallization is slightly higher than that of the Osborne-Mendel mixture. The latter, when prepared according to the original directions (in the proportions required for 10 kilograms of diet), yields about 435 gm. of dried mixture, whereas the equivalent weight of F. R. L. mixture here described is 480.5 gm. Hence in experimental diets prescribing 4.0 per cent. of the Osborne-Mendel salt mixture, 4.4 (or 4.5) per cent. of the F. R. L. salt mixture may be substituted.

Protracted feeding experiments in which the two salt mixtures were fed to divided litters of albino rats, both consecutively and in parallel, showed no differences in growth response.

The composition of the F. R. L. salt mixture is as follows:

Ca Citrate · 4 H_2O		309.67
Ca $(H_2PO_4)_2 \cdot H_2O$		113.25
K_2HPO_4		219.72
KCl		125.29
NaCl		77.41
$CaCO_3$		68.90
$MgCO_3$		33.43
$MgSO_4$ (anhydrous)		38.50
Fe Citrate $1\frac{1}{2}$ H_2O	94.18	
NaF	3.68	
$MnSO_4$	1.17	
$K_2Al_2(SO_4)_4 \cdot 24\ H_2O$	0.67	13.80
KI	0.30	
	100.00	
		1,000.00

The weighed quantities of salts are thoroughly mixed (a McClellan batch mixer is recommended), and then finely ground in a steel mill.

PHILIP B. HAWK
BERNARD L. OSER
FOOD RESEARCH LABORATORIES, INC.,
NEW YORK CITY

A STAIN FOR FIBRIN, GRAM POSITIVE BACTERIA AND BASAL BODIES IN TISSUES

THIS stain is a modification of the Weigert and Gram-Weigert methods for fibrin and gram positive bacteria, respectively.

Tissues are fixed in Zenker's solution (with 5 per cent. acetic acid) or Zenker-formalin (90 cc Zenker's plus 10 cc of 10 per cent. formalin); they are mounted in paraffin and sectioned at 5 μ. After a very light hematoxylin stain they are thoroughly washed in tap

[1] Osborne and Mendel, *J. Biol. Chem.*, 15, 311, 1913; 37, 557, 1919.