

SCIENCE:

PUBLISHED BY N. D. C. HODGES, 874 BROADWAY, NEW YORK.

SUBSCRIPTIONS TO ANY PART OF THE WORLD, \$3.50 A YEAR.

To any contributor, on request in advance, one hundred copies of the issue containing his article will be sent without charge. More copies will be supplied at about cost, also if ordered in advance. Reprints are not supplied, as for obvious reasons we desire to circulate as many copies of *Science* as possible. Authors are, however, at perfect liberty to have their articles reprinted elsewhere. For illustrations, drawings in black and white suitable for photo-engraving should be supplied by the contributor. Rejected manuscripts will be returned to the authors only when the requisite amount of postage accompanies the manuscript. Whatever is intended for insertion must be authenticated by the name and address of the writer; not necessarily for publication, but as a guaranty of good faith. We do not hold ourselves responsible for any view or opinions expressed in the communications of our correspondents.

Attention is called to the "Wants" column. It is invaluable to those who use it in soliciting information or seeking new positions. The name and address of applicants should be given in full, so that answers will go direct to them. The "Exchange" column is likewise open.

A NEW ORTHOGRAPHY.

BY J. I. D. HINDS, CUMBERLAND UNIVERSITY, LEBANON, TENN.

THE orthography of the English language is distressingly bad. A reform in spelling would relieve education of one of its heaviest burdens. The hardest task of the first six years of the child's school-life is the spelling lesson. Indeed, the labor never ends. The veteran school teacher dares not venture too far from his dictionary. None of the phonetic systems which have been presented have met with such favor as to pass into general use. Yet reform must be possible.

In the phonetic systems now before the world there are two barriers to their general adoption. In the first place, the change from the present spelling is too great and too abrupt. The human race is like a heavy body in motion. Change of direction must be effected gradually. In the second place, the proposed systems are too complicated, and present distinctions which are too nice to be generally appreciated. To be acceptable, a system must possess two leading characteristics: (1) It must make the least possible departure from that now in use, and (2) it must be so simple that it may be read at sight and that the little child can learn it understandingly.

I think such a system is within our reach and that it might be brought into general use in a few years. I suggest the following:—

1. The present alphabet should be retained with as little change as possible. This is important, because new characters frighten the people and lay additional burdens on the printer. Besides, the language can be very well written with the characters which we have. The only deficiency is found with the vowels, and this can be supplied, as I shall show later.

2. Each character should have a fixed sound, and should retain the same sound in all its positions. In carrying out this rule, too much nicety must not be attempted. The vowel sounds are so variable that to represent all of them we should have to multiply characters almost indefinitely. We should thus have many words spelled differently in different positions and as coming from the mouths of different speakers. Every word should have a fixed form, and should retain this form in all its positions, though its pronunciation should vary. The written word is the symbol of an idea, and, at best, but approximately represents the spoken word. What we want is a compromise between the two which will do the least violence to pronunciation and afford the greatest ease in spelling. The mind tolerates a certain amount of ambiguity rather than endure too nice distinctions. This is illustrated in the varying sounds of the vowels as now used. Again, obscure sounds cannot be well represented phonetically. In syllables where they occur the vowel indicated by the etymology of the word should be retained.

3. Words should be spelled as they are pronounced, and each sound should be represented by its proper character wherever it occurs. Here, as before, too much nicety must not be attempted.

Let us have a judicious compromise. The great difficulty of English spelling does not depend upon the fact that each of the vowels has several sounds. It is rather because each of these sounds is represented, not only by the other vowels, but also by a wonderful variety of combinations of vowels and consonants. For example, the long sound of *a* is indicated in at least twenty different ways, as in the following words: *Bass, fate, pain, pay, dahlia, vein, they, great, eh, goal, gauge, champagne, campaign, straight, feign, eight, aye, obeyed, weighed, halfpenny*. So there are twenty-four combinations expressing the long sound of *e*, twenty-six for the sound of *a* in all, among which are *ough* in *aught*, *ough* in *thought*, and *ougha* in *Vaughan*; and for the sound of short unaccented *a* Miss Soames finds no less than thirty-four letters and combinations. No wonder the child, when learning to spell, is ready to give up in despair.

Now all that is very desirable can be attained through our present alphabet by giving to each letter a fixed sound and supplying a few vowel sounds by the use of double letters. The names of the letters should be so changed as to give to each vowel and vowel combination the sound which it represents and to make the names of the consonants uniform. We will take the five vowels and give them the names which they have in the European languages, and let them, when written singly, represent the short sound of these vowels. Let the long sounds be indicated by doubling or adding the letter *e*. For the diphthongs retain the ordinary combinations. The vowel system will then stand as follows:—

Vowels.		
Long.	Intermediate.	Short.
<i>aa</i> , as in father,	<i>a</i> , as in last,	<i>a</i> , as in mat,
<i>ae</i> , as in mate,		<i>e</i> , as in net,
<i>ie</i> , as in machine,		<i>i</i> , as in nit,
<i>oe</i> , as in note,		<i>o</i> , as in not,
<i>ue</i> , as in rule,	<i>oo</i> , as in foot, bull,	<i>u</i> , as in up.
Diphthongs.		
<i>ei</i> , like <i>i</i> in pine,	<i>ai</i> , as in air,	<i>oi</i> , as in boil,
<i>au</i> , as in laud,	<i>ou</i> , as in house,	<i>yu</i> , as in you.

Examining this table, we see that the short vowels present no change from their present usage. The Italian *a* is expressed by doubling the letter. The long *a* really corresponds to short *e*, and there is a fitness, therefore, in representing it by *ae*. This is commonly done now, except that the *e* usually goes to the end of the syllable. The other long sounds are also appropriately indicated by adding *e*. The intermediate *a* is so little used that it hardly seems necessary to provide for it a separate character. Its sound is usually suggested by the consonants which follow it. The sound of *u* in bull is well represented by *oo*. The long *u* is really *yu*, and it is so indicated. The least satisfactory of all, perhaps, is the use of *ei* for the long sound of *i*. The combination *ai* would have been better, but this occurs now in so many words and its sound is so well fixed that it was not thought best to change it. As a compromise, the letter *I* may still be retained for the personal pronoun. When these double vowels are once in use, they will naturally, in the course of time, be combined into one character.

Since the short vowel sounds do not occur in accented, open syllables, the lengthening *e* may be omitted in these, and the spelling thus further simplified. As an additional compromise, the letters in such positions might retain their present sounds.

With the consonants, we need have little trouble. We will obtain the name uniformly by adding to each letter and combination the long *a*. The sound being indicated by the name, it is not necessary to give sample words. With an approximate classification into surds and sonants, stops and continuants, they are as follows:—

Consonants.			
<i>p</i> , pae,	<i>b</i> , bae,	<i>t</i> , tae,	<i>d</i> , dae,
<i>f</i> , fae,	<i>v</i> , vae,	<i>k</i> , kae,	<i>g</i> , gae,
<i>c</i> , cae (chae),	<i>j</i> , jae,	<i>th</i> , thae,	<i>dh</i> , dhae (they),
<i>s</i> , sae,	<i>z</i> , zae,	<i>sh</i> , shae,	<i>zh</i> , zhae,
<i>r</i> , rae,	<i>l</i> , lae,	<i>m</i> , mae,	<i>n</i> , nae,
<i>h</i> , hae,	<i>y</i> , yae,	<i>w</i> , wae,	<i>hw</i> , hwaе (whay).