

Without wishing to uphold the ascensional theory of the formation of lodes, it may be pointed out that the gold may have risen from below in both the veins in the gneiss and those in the Dharwar, but that owing to unfavorable conditions in connection with the gneiss (e. g., absence of a precipitant) the gold has not been deposited in the veins in the gneiss. The case does not stand alone. The influence of the "country" on the productiveness of veins is a phenomenon well known and appreciated by mining engineers, and both the ascensional and the lateral secretion theories can be adapted to explain it.

It would have been interesting if Mr. Lake had given details of those observations which led him to believe that the schists of the district were lava-flows.

L. H. LINNELL COOKE.

Glasgow, Scotland, Sept. 22nd, 1893.

#### A PHONETIC ORTHOGRAPHY.

A NEW system of English orthography is proposed in *Science* (July 21), by Prof. J. I. D. Hinds, of Lebanon, Tenn., and endorsed with slight alterations (*Science*, August 25), by Frederick Krafft, of Jersey City Heights.

Reform, not revolution, in English orthography, is very desirable; but reform, to be successful, must be in accord with the spirit of the English language; it must also be attempted a little at a time. "Great reforms progress slowly."

Any system proposed that is simply phonetic must fail for the following reasons: (1) Our alphabet is inadequate; (2) the people of different sections or schools pronounce many words differently; (3) everyone would spell according to his own ideas of pronunciation, and there would be no standard. The fact that Prof. Hinds and Mr. Krafft, who attempt to agree, differ is evidence of that.

People are not all born with perfect audition and perfect powers of enunciation. These are matters largely of education. Perfection in these two particulars is very rare. In order that two persons pronounce all their words alike they must be of the same race or family and have the same teachers all their lives.

In America, where the most perfect English is said to be spoken, there are great differences in some of the vowel sounds in the different sections of the country. In any neighborhood in the west the same differences may be found according to the section from which the different neighbors came. The state or section from which a man came may usually be determined by his speech.

Without laying claim to perfection myself, but only to show the differences of pronunciation in different parts of the country, I wish to point out discrepancies in the pronunciation of these two gentlemen:

Professor Hinds offers *aa* to represent the sound of *a* in *father*, and then gives as an example, *waaz* for *was*. That will not do. The sound of *a* in *was* is very nearly the sound of *o* in *dog*. It would better be represented *woz*. Again he gives *waac* for *watch*. The vowel sound in that word is identical with the sound of *o* in *not*, and should be represented by *woc* (wotch). Mr. Krafft's representation *wac*, as if to rhyme with *thatch*, is worse yet, and is probably a typographical error. *Laaf* will do for *laugh*, if he likes it; but is it not rather pedantic and affected? Better the sound of *a* in *last*. Let the following nonsense sentence be read aloud and the differences of sound of the vowel *a* noted: "Father laughed hard after Fanny's hairless watch-dog was last granted fat."

*Laj* in *villaj* will not do. *Village* is much pleasanter. The sound of *a* in *village* is as *a* in *mate*, shortened, unaccented, and rendered somewhat obscure, less in time than short *e* in *edge* and less open in quality.

*With* in Prof. Hinds's extract may be an oversight. *Withd* would be better.

*O'r* should be *oer*, — long sound of *o*, not short.

*Murmur* will do; but *yondur*, *sobur* and *hur'd* will hardly do. They have not the sound of *u* in *up*. *Dher* by Prof. Hinds, in the same line, may do for *their* if the word is not emphatic; otherwise his *dhair* (probably *dhaer* was intended) for *there*, and Dr. Krafft's *thare* for both *there* and *their* would be better. *Yonder*, *sober* and *herd*, ordinary spelling, would be less liable to be mispronounced, considering that *e* followed by *r* differs from *e* in *met*.

*Puel*, *skuel* and *lues* are very bad, when *ue* is given to represent *u* in *rule*. Undoubtedly Prof. Hinds meant that *ue* should represent *oo* in *tool*. *U* in *rule* is the same as *u* in *mule*, except that in *mule* a *y* is distinctly sounded before the *u*, and in *rule* the *y* is indistinctly sounded on account of the preceding *r*. *Pool*, *school* and *loose* are much different from *pule*, *skule* and *luce*.

*U* in *playful* should not be sounded as *u* in *up*. It should be as *u* in *pull*. For this sound Professor Hinds proposes *oo*. The notation then should be *plaefoo*.

*Weind* should be *wind* (short sound of *i*). The word does not rhyme with *mind* and should not be so read. The rhymes are allowable, not perfect.

Some words in the extract are lengthened, defeating one of the objects sought, as *waaz*, *vaekant*, *konfyuzhun*. Again, dissyllables are written with a single vowel, as *sofnd*, *gabld*.

Thus all this is designed to show the impracticability of a phonetic system. The one proposed is as good as any. No phonetic system will meet all requirements for the reasons here given: (1) Differences of pronunciation among different people, and (2) defective alphabet, necessitating the use of digraphs to represent some of the simple sounds.

Speaking of digraphs, how can we limit a simple sound to single digraph when our language now furnishes us with such a vast variety of digraphs, tri-graphs, and even polygraphs to represent the different sounds? Take, for instance, the sound of *a* in *mate*. We are by no means limited to the twenty combinations presented by Professor Hinds. We must spell *plague* with *a-ue*. *Naas* with *aa*, *Mælar* with *æ*, and *Græme* with *æ-e*. Mr. Baehr is particular that we shall spell his name with *aeh*; while another *Bhaer* is equally strenuous that *hae* shall go into his name. *Brahe*, however, gives the letters another twist (*ahe*); while *Mahlon* drops the *e* entirely. *Praise* is stronger than *pain* in having a final *e*; and the *Des Plaines River* requires a final *es* to complete its orthography. *Marais des Cygnes* will have *ais*, *Aisne* *ais* and *e* final, while *chaise* (colloquially "shay") except the deacon's one-hoss one, carries the polygraph *aise*. We must remember to spell *Basle* with *as-e*, *Naix* and *Morlaix* with *aix*, *Carhaix* with *haix*, *La Haye* with *haye*, and *Aux Cayes* (O. K.) with *ayes*.

The *Ray* family is large and diverse. One branch clings to *Rhe*, showing *he*; another adds an *a* making it *Rhea* (*hea*); while a third, the Scotch *Rea*, omits the *h*. A gentleman of Ireland, who long ago built a castle (Castle-reagh) near Lough Neagh (*Nay*), with his descendants, to this day spell the name *Reagh* with *eagh*; and a pioneer of the west, Mr. *Reaugh* (*Ray*), with probably a still more ancient lineage, delights in *eagh*. The name of the late governor (*Seay*) of Oklahoma requires *ey* for its correct make-up; *Payne* wants *ay-e*, *Cheyne* *ey-e*, and a certain Swedish American, *Hoeland*, prefers *oe* in his name. When fully Americanized he will probably be *Hayland*.

Among words from the French, *employé* and *resumé* require an accented *e*; *protégée* one accented and one plain *e*, and the plural, pronounced similarly, an *s* additional, thus *ees*. *Feting* requires a plain *e*, *crepe* two, *e-e*, *melee* double *ee*, *entrees* *ees*, *orgeat* *eat*, *entremets* *ets*, *mobilier* *er*, and *chef d'œuvre* *ef* or *efs*, according to

whether the word is singular or plural. We will distinguish *crochet* with *et*, *crocheted* with *ete*, *pique* (the cloth) with *ue*, *croquet* with *uet*, and *roqueted* with *uete*. We must not forget that *Duchesse* requires *es-e*, *Duquesne ues-e*, *Niquée uee*, *Torquay uay*, and *Queyrac uey*. *Chassez* ("sashay") completes our French list with *ez*.

We spell *seine* with *ei-e*, *eigne* with *eig-e*, and *eyot* (ait) with *eyo*. We must remember *rhaphe* with *ha*, *Thame* in England with *ha-e*, *heir* with *hei*, and *renaigue* with *ai-ue*. As an oddity we find *quegh*, which ought to be obsolete, troubled with *egh* or *aich* (quaich), quoits ("quoits" in the country) has *oi*. *Theys* (tay) goes with *heys*, and old Mr. Trew (Tray) is ever faithful to *ew* in his name.

But why prolong this exhibit? The reader is already exhausted, and the chapter is not yet complete. Suffice it to say there are nearly one hundred different ways of representing the long sound of *a*, many of them in patronymics and names of places that need to be pronounced by English-speaking people. For other vowel sounds there is an equally extensive variety of representatives.

All this would, perforce, show the necessity of a reform in spelling—phonetic reform, if need be; but, on the other hand, the letters of a word are the earmarks, if you please, that indicate ownership—that show the philologic derivation and history of a word. Phonetic reform could never touch the majority of irregularities in spelling and retain any intelligence in the word. Therefore, with all its faults, our heterographic orthography is preferable to any homographic orthography that can be devised with our present alphabet.

What we can do is this: Drop some of our redundant letters as *me* from *programme*, *ue* from *catalogue*, etc.; final *e* from *strychnine*, etc., when the preceding vowel is short; *a* from *plead* (pled), past tense and pp., and similar words; change *ph* to *f*, as in *sulfur*. There is plenty of scope for good work in this direction, and such work will finally become permanent. We would become accustomed to these words, as to dock-tailed sheep, and prefer them.

B. B. SMYTH.

Topeka, Kansas.

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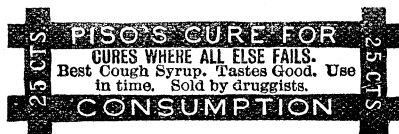
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## FEIGNED DEATH IN SNAKES.

For a long time I have desired information from others about a common trick of the ordinary "blowing viper," or "spreadhead snake" (*Heterodon*, in several species). I have observed that such animals when much worried, or slightly hurt, will frequently feign death. This habit has doubtless been often reported before, but I do not recall having seen definite mention of it in print but once. Several months ago, some one writing about snakes in a daily newspaper, alluded to this matter, and gave, as an explanation, the off-hand statement that the snake became frightened and "fainted from fear." That this is not the explanation will, I think, appear from what I have noted about several cases that came under my own observation.

The first time I ever noticed this behavior on the part of a snake was when I was a child. At that time I was one day crossing a field accompanied by an old negro man and a small dog. The dog found a common black "spread-head," and, without actually taking hold of it, began to worry it by running around it, snapping at it and barking. Anxious to save my friend, the dog, from what I supposed was deadly peril, I struck the snake with the only weapon quickly available, a small whip I carried in my hand. The snake immediately ejected a toad it had recently swallowed, then appeared to bite itself in the side, and promptly turned on its back and stiffened (but did not become stretched straight out) and lay perfectly still. There was not even a wiggle in its tail when pinched. Believing, as I then did, that all snakes were venomous, I supposed this one had killed himself; and remarking that he "seemed dead enough," I was on the point of leaving him. But the old negro said, "Oh no! If you leave them when they bite themselves, then their mates come along and lick the bite, and they come to." So I mashed the snake's head in a way that no amount of licking would ever heal. The old man evidently knew, by some means, that snakes which appeared thus to commit suicide would recover, and knowing no real explanation of why they should be invented one. Therein he followed the example of more eminent men than himself.

Before I again noticed such action by a snake I had

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