bodies suggestions for other such cooperative investigations.

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AGRONOMIC JABBERWOCKY

WHO among us has not thrilled to Lewis Carroll's sonorous and gruesome lines:

> Twas brillig and the slithy toves
> Did gyre and gimble in the wabe
> All mimsy were the borogoves
> And the mome raths outgabe.

Now after these many years the jabberwock has been aroused again and with eyes of flame is whiffling through the tulgey wood and burbling as he comes:

> The rugaplanes in thickth midlux
> Midodored in the coolth
> But straighth and plumpth the illth umblux
> Midceptisist in fulth.

The new ululations of this fearsome beast are not neglected *Dodgsoniana* resurrected by the antiquarians. They are the grotesque inventions of three moderns who, if not so mellifluous as Dr. Dodgson, are almost as whimsical.[1]

Incomprehensible though it may be, these present fantasies of sounds are not intended as poetic amusement for adolescents. They are offered in all seriousness as aids to American agronomists who, it appears, are struggling perspiringly to be articulate in the refractory English language. That these etymological freaks are welcome is evidenced by the approval with which they were accepted at the Chicago meeting of the agronomists. Presumably hereafter these scientists are to seek lucidity in a ludicrous lexicon of such words as midceptimmune, thickth, plumpth, straighth, midgoodth and rugaplane.

There may be those who will espy the Machiavellian hand of "Big Bill" in this attempt to besmirch the King's English, but that the act took place in Chicago is believed to be the purely fortuitous result of more deep-seated genetic causes.

Proceeding apparently on the theory that the case of the agronomists required heroic treatment the committee on terminology made a herculean effort. The energetic chairman distinguished himself in linguistic prestidigitation, pulling monster after monster out of his hat to be added to a language already reputed to contain 50,000 (or is it 500,000?) words. Whichever the correct number, there surely are enough to meet all the rhetorical requirements of the agronomists, once they have been thoroughly mastered.

It is true that agronomic literature like that of most sciences is open to criticism, but the defect is to be found in the lack of a facile command of the language rather than in a shortage of suitable words. Since "the ultimate aim of research is publication,"[2] inability to express one's thoughts fluently is a fault worthy of most serious study. Any sensible effort to discover a corrective should be welcomed, but an effective cathartic for costive minds hardly is to be obtained by compounding new words, however bizarre. The hapless agronomists have fallen upon evil times and are not likely to find an alleviating diagrydium in the upas shadow of Dr. Ball's Carrollian pastiche.

One can not but be astonished at the egotistic effrontery of a group of men who, after a few weeks' consideration, attempt to improve a language which has met the test of world-wide use for so many centuries. English speech lacks median terms? Forsooth they shall be supplied and presto with a flourish of the pen these diaskeuasts create a veritable Walpurgis of words.

Their words tell us precisely nothing. Objects may be large, small or middle-sized, like the three bears in the nursery tale, but these terms are recognized as being purely relative. They have no meaning in the discrete units of quantity nor should they have. As with general size so with other qualities; things may be tall or short, stout or slender, broad or narrow, deep or shallow, dark or light, straight or crooked, just as committeemen may be wise or foolish, profound or superficial, inferior or superior, grave or comical, sharp or dull, sensible or silly, brilliant or stupid. In fact, there is an almost interminable number of words designating opposite extremes of variable scales. For the positions between the extremes there is an appropriate series of qualifying words such as intermediate, middle, normal, medium, moderate, partial, semi, ordinary, etc. These terms are useful in describing general conditions but are always relative to each other and require definition anew with each discussion where some specific limit is intended.

Not satisfied with having words for the extremes and middle, Dr. Ball's committee is now urging a whole series of new words to mark the quarter positions! These new words, formed by combining adjectives and nouns, are required, presumably, for ac-

[1] Ball, C. R., Shantz, H. L., and Shaw, C. F. "Median Terms in Adjectives of Comparison." *Jour. Amer. Soc. Agronomy*, Vol. 20, No. 2, pp. 182–191. February, 1928.

[2] Allen, E. W. "The Publication of Research." Lecture before the class in "The Nature and Method of Research." Graduate School, Department of Agriculture. Published in mimeograph form for the information of the staff of the Department of Agriculture, February 11, 1925.

curacy of expression, but are likely to create more mental obfuscation than they dispel.

Perhaps the agronomists need a few distinctive terms to add dignity to their science, but the chairman of their committee is not content to restrict his changelings to agricultural science.[3] He seems to feel that his "words" deserve a more widespread popularity and will fill a need in the language at large. The ignominious fate of simplified spelling has been forgotten; a reform justified by sound logic and sponsored by the indefatigable Roosevelt with the full weight of his dynamic personality.

Apparently the agronomists are no longer content to permit the cultured to determine good usage in American speech. Hereafter these matters are to be more democratically decided. The ignorant minority must prevail in language as in politics, and illiteracy is to displace culture. This is an innovation and if we accept agronomic canons of good taste there is no logical reason for rejecting pathological or genetic canons, or for that matter amalgamated truck-drivers' canons. If the agronomists are successful in having their orthographic solecisms incorporated in the respectable dictionaries we may expect similar minority domination from all quarters and our language will become the plaything of irresponsible committeemen.

Nothing could be more absurd than such an arbitrary method of adapting a language to changing conditions. Culture ever has been identified with intellect and never will be achieved by means of the ballot despite the cajoleries of these modern Malaprops with their complacently acquiescent organizations.

All work and no play is detrimental even in matters scientific, but the agronomists, having had their little excursion behind the looking-glass, should now take their vorpal swords in hand and slay the jabberwock. They can then return contentedly to a consideration of their researches, secure in the knowledge that the elegance of their published reports will not be marred with pleonasms imposed by philological mountebanks.

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NOTE ON THE INERTIA DYADIC

FOR the dynamics of a rigid body it has been shown that the moment of momentum may be expressed as the scalar product of a dyadic—called the inertia dyadic—and the angular velocity. The inertia dyadic is defined by the relation

$$\Phi = \Sigma m(\mathbf{r} \cdot \mathbf{rI} - \mathbf{rr})$$

Thus, it plays the same rôle for rotational motion as the mass for translational motion. There is an important difference, however. Whereas the mass is assumed constant, the dyadic is not constant and as a consequence it becomes necessary to obtain its time-derivative.

Starting with the expression given above it can be shown that

$$\dot{\Phi} = \mathbf{p} \times \Phi - \Phi \times \mathbf{p}$$

in which $\mathbf{p}$ is the angular velocity. This shows, as was to be expected, that the time-rate of change of the dyadic is due only to the angular velocity. The form, however, is not so simple as in the case of vectors and I am not aware that any one has ever taken the trouble to express the derivative in this way. The expression is useful as a step in the development of rotational dynamics, for when taken in conjunction with the fundamental principle

$$\frac{d(\Phi \cdot \mathbf{p})}{dt} = \mathbf{L}$$

Euler's equations for rotational motion are obtained immediately.

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A NEW AMPHIBIAN RECORD FROM KANSAS, HYLA PHAEROCRYPTA (COPE)[1]

IN the spring of 1925 a specimen of tree-frog was collected near Wildcat Creek, west of the Kansas State Agricultural College at Manhattan, Riley County, Kansas. It differed from any that had been taken in the region and in life somewhat resembled *Hyla crucifer* because its irregular and asymmetrical dorsal markings tended to form a cruciform pattern.

Later the specimen was sent to the U. S. National Museum for identification and was kindly identified as *Hyla phaerocrypta*. Because of the close resemblance of this species to other members of its genus I did not include this report in my list of the amphibians and reptiles of Riley County (1927),[2] but held it for further study. The specimen was consequently sent to Dr. G. K. Noble, who independently agreed with the previous identification.

Hyla phaerocrypta is an amphibian of unusual interest. It was described by Cope (1889)[3] from a

[3] According to the *Jour. of the Amer. Soc. of Agronomy*, for December, 1927, the case for general adoption of these new words is to be presented in "American Speech."

[1] Contributions from the zoological laboratory of the University of Michigan.

[2] Burt, Charles E., 1927, "An Annotated List of the Amphibians and Reptiles of Riley County, Kansas," Occas. Pap. Mus. Zool. Univ. Mich., 189: 1–9.

[3] Cope, E. D., 1889, "The Batrachia of North America," Bull. U. S. Nat. Mus., 34: 1–515.