That such means of "arousing popular interest" are beneficial rather than detrimental to a science will be maintained by none. The fault must lie in the manner of giving out astronomical news or in insufficient disciplinary checks on the misuse of proffered information. In a somewhat extended experience I have met perhaps five gentlemen of the press who were exceptions to the general rule that a reporter is a brilliant young man whose mission in life is to improve the truth. The director of one of America's greatest observatories used to give out information only in typewritten form; when this was embroidered and improved by dailies of yellower tinge, information was refused these for a time. Such discipline is not hard to apply, and soon brings the promise to be good.

The following procedure may also help—in giving out "news" state fully and clearly its interest to the layman as well as its *actual importance to astronomy, and insist that this appraisal be included* in the "story."

HEBER D. CURTIS

ALLEGHENY OBSERVATORY,
Nov. 17, 1928

AGRONOMIC TERMINOLOGY

ON the return of the writer to Washington, after a summer spent largely in the field, his attention has been called again to an article[1] which appeared in SCIENCE last June.

There is neither need nor desire to attempt to reply in kind to the writer of the critique of the median terms suggested by the Committee on Terminology of the American Society of Agronomy. Constructive criticism is welcomed but careful reading for three successive times has failed to discover a single constructive suggestion. His discussion rises to no higher level than that of ridicule and personal abuse. In describing the proposed terms, he uses such phrases as "grotesque inventions," "fantasies of sounds," "etymological freaks," "ludicrous lexicon," "monster after monster," "bizarre," "orthographic solecisms" and "pleonasms." Not content with thus characterizing the words, he applies the following epithets, among others, to the actions and personnel of the committee, namely, "egotistic effrontery," "diaskeuasts," "ignorant minority," "illiteracy," "irresponsible committeemen," "modern Malaprops," "philological mountebanks," etc.

It is not necessary to consider further the value of such a presentation. The readers of SCIENCE are entitled, however, to a discussion of some facts and principles which were omitted, misstated or denied by the critic in the article in question.

(1) "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."

So far as the idea conveyed by the phrase "a few weeks' consideration" is concerned, the records of the committee show that the subject of median terms had been made a matter of study since 1923, as stated in the report criticized[2] (page 183). More important, however, is the implication that the English language has not been "improved" for "so many centuries." Any one at all familiar with the history and structure of a language knows that it is in a constant state of modification. Changes in spelling and pronunciation occur gradually but commonly from century to century. Narrowings or broadenings of the meaning of words come about with the passing of the years. Equally abundant and important are the additions of new words with the expanding knowledge and activities of mankind. Geoffrey Chaucer was a prolific writer of the English of his day in the latter half of the 14th century, something more than 500 years ago. The common words of our present English speech as used by Chaucer are so different in spelling and pronunciation, and sometimes in meaning, as to constitute almost a foreign language, exceedingly difficult for the modern to read. Still more important, thousands of words in the popular and scientific literature of to-day did not exist at all in Chaucer's time because the objects, actions or conditions they denote either did not then exist or were still unknown to man. Evidently the English language has been quite materially changed, and perhaps even improved, in the course of only a few centuries.

(2) "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."

Whence come the numerous new terms constantly appearing in our language? Are they created by the dictionary makers and discovered in the new editions of dictionaries by the scientists who have occasion to consult these works? Not at all. They are created arbitrarily and intentionally by the persons who first recognize the need for them. They are then brought by publication to the attention of fellow craftsmen,

[1] J. H. Kempton, "Agronomic Jabberwocky," SCIENCE, n. s., 67 (1747): 629–630, June 22, 1928.

[2] Carleton R. Ball, Homer L. Shantz and Charles F. Shaw, "Median Terms in Adjectives of Comparison," *Jour. Amer. Soc. Agron.*, 20 (2): 182–191, fig. 1, February, 1928.

and such as appear both needed and suitable gradually are adopted. This is the method followed by the Committee on Terminology of the American Society of Agronomy and by other similar committees of which the present writer has knowledge. Is this "minority domination" or making our language "the plaything of irresponsible committeemen"?

As a matter of fact, why should the words proposed be branded as "orthographic solecisms"? Are such terms as "plumpth" and "thickth" essentially different from, or better or worse than, "strength," "breadth," "depth," "length" and "width," which appear not only in dictionaries, but in many other respectable publications, not omitting papers by crop plant geneticists? Is "rugaplane" in any way peculiar when compared with "aeroplane," "monoplane" or "peneplain"? If these words are usable, why should "rugaplane" be singled out for ridicule? New terms in physics, especially as applied to electricity, are coming into our language at a rapid rate. Who originated such terms as "ampere," "anion," "cathode," "dyadic," "dyne," "electrode," "electron," "erg," "farad," "joule," "ohm," "volt" and "watt"? And did their authors "improve" or defile the language? Four new terms belonging to this category were proposed as recently as the issue of SCIENCE for October 12, 1928 (p. 349).

How about the new terms in the science of genetics itself? Consider such a series as: allelomorph, cacogenic, chromosome, dihybrid, dysgenic, epistatic, gamete, gene, haploid, heterosis, meiosis, monosomic, nulliplex, xenia and zygote. Are the epithets applied to the Committee on Terminology of the American Society of Agronomy to be applied also to the men who developed the terminology of this branch of science? Are the terms they have proposed, and which geneticists have accepted and used, to be characterized by the uncomplimentary phrases applied to the agronomic terms suggested?

Any one so inclined could easily arrange either of the above series of terms into a "Carrollian pastiche" similar to the one concocted by the critic. So might one the terms of any other branch of science. But would such arrangement prove them "grotesque inventions," "etymological freaks," or "orthographic solecisms"? One wonders.

(3) "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."

Some of these words are commonly used but, in the words of the critic, these terms often tell us "precisely nothing," and leave us painfully guessing what a given author was talking about at a given point. The solution of this problem of adequate median terms was the basis of the committee report. The present writer and his associates[3] discussed it in the following language:

"The enormous development of plant breeding following the rediscovery of the primary laws of genetics has had one unexpected result. It has brought about a need for median terms in a series of three adjectives of comparison. In most hybrids the parents have one or more pairs of contrasting characters. Precise terms are needed to describe those intermediate for each such pair of characters. Short organisms are crossed on tall, thin on thick, smooth on rough, acute-angled on obtuse, glabrous on hairy, hornless on horned, etc. How shall the intermediates be designated?

"The common practice at present is to speak of them as 'medium.' If only one character pair is concerned in any given paper or discussion, there will be no doubt of the meaning of 'medium.' Where several character pairs are discussed in one paper the use of 'medium' becomes very confusing. The reader is always glancing back or hunting tediously to find out for what particular factor the plant is 'medium,' or intermediate.

"It always is possible to achieve clearness by using a phrase instead of a word. One can say, 'The plants intermediate for awn length,' or 'The animals intermediate for coat color,' etc. How much better to be able to say it in a single word and how much clearer to have the single word tell exactly for what character pair the given organism was intermediate, or 'medium.'"

(4) "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!"

The adequate answer to the above statement is that the committee did nothing of the kind. It merely pointed out that the term which would be proper in the quarter position all too frequently was used for the middle position.

(5) "The hapless agronomists have fallen upon evil times. . . ." Each of the more than 750 members of the American Society of Agronomy doubtless is capable of determining for himself whether or not he is "hapless," and if he and his fellows "have fallen upon evil times." The society has maintained a committee on terminology for years, has heard and accepted numerous reports from this committee, and some of the terms favored in the committee recommendations are in common use in publications. It is interesting to note that the records of the society

[3] Ball, *et al.*, *l.c.*, p. 182.

do not show that the writer of the critique is, or ever was, a member of this society, or that he ever has contributed of his time, effort or money to its upbuilding. Most of the workers in crop plant genetics, in which this critic is engaged, are active members of the American Society of Agronomy. The question naturally occurs as to why a complete outsider should be so concerned about the society and the report of its committee.

(6) "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."

Probably the American electorate will not be greatly concerned about the above assertion that the "ignorant minority" holds the offices and makes the laws. No more, probably, will American agronomists be concerned that their motives are aspersed, their intelligence derided, and their culture denied. In a previous similar diatribe[4] by this critic a group of university workers was held up to ridicule. They composed the Committee on Social and Economic Welfare of Scientific Men of one division of the American Association for the Advancement of Science, and were engaged in formulating a code of ethical standards.

It always is an interesting adventure in philosophy to speculate on the influences which so exalt the ego as to produce and motivate these self-appointed monitors. Specifically, what are the educational and cultural backgrounds which led to this assumption of adequacy to speak for a cultured majority against an "ignorant minority"?

May a scientific setting without adequate background sometimes tend toward acute megalomania?

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REPORTS

THE HARVARD MUSEUMS

ON November 1, 1927, Mr. Samuel Henshaw resigned as director of the Museum of Comparative Zoology after many years of service marked by unflagging industry and self-sacrificing devotion to the fulfilment of his ideals of what the museum should be. He has been very properly appointed director emeritus by the corporation. Thomas Barbour was appointed director of the Museum of Comparative Zoology and of the University Museum.

In his first annual report, Dr. Barbour states that, with the aid of voluntary subscriptions on the part of several friends of the museum, it has been possible to make a number of changes and improvements. By flooring over most of the galleries in the exhibition rooms and by rearranging the exhibition collections a number of new and most commodious laboratories and studies for the staff has been made. This has allowed the expansion and rearrangement of most of the collections of invertebrates and has served to make the research collections much more useful and accessible. Perhaps no collections are now more convenient to investigators. Due allowance has been made for expansion for years to come.

The exhibition rooms have been redecorated and the exhibits in large degree rearranged but as yet only in part relabeled, while great quantities of material unfit either for exhibition or study have been discarded. Several rooms previously devoted to the storage of what might be called obsolete material have been cleared out and are now useful and constantly used laboratories.

The exhibits now consist of:

A hall of marine mammals, chosen to show adaptations to aquatic life of several of the principal mammalian orders.

A synoptic collection of most of the well-known North American birds, using almost entirely material from the Greene-Smith collection. In this room the portrait of Audubon by Healy has been hung, as well as plates from Audubon's elephant folio, contributed by Dr. John C. Phillips and others. The collection illustrating avian architecture is also to be found here.

A room displaying some of the less well-known domesticated animals and specimens selected to show variation under domestication, Mendelian inheritance, albinism, melanism, etc.

A large room devoted to marine faunal associations, selected types from the deep sea, the Gulf Stream and other oceanic environmental areas.

A room devoted to birds and mammals characteristic of Australia, Madagascar and other insular faunae.

The Indo-Asiatic room is essentially unchanged, except that the material is rearranged and, thanks to Dr. Theodore Lyman, a beautiful case has been built for the two superb tigers.

The South American room and the African room each contain some new material, while the old North American room has been rearranged as a Holarctic room, the Holarctic area being more truly a single zoological entity.

[4] J. H. Kempton, "Scientors Appear in the Southwest," SCIENCE, n. s., 66 (1711): 354–355, October 14, 1927.