number of years ago, will spend the greater part of the summer in the islands, living among the native Aleut inhabitants.

A WIRELESS dispatch from Berlin to *The New York Times* reports that in the presence of Chancellor Adolf Hitler the Reich Research Council was inaugurated on May 25. National Socialist Cabinet members and a large body of scientific men attended. The new organization was created especially to further the four-year plan. Minister of Education Bernhard Rust explained that technical and natural science research would be pursued systematically by the council, Germany's economic self-sufficiency being the objective. General Karl Becker outlined the principal departments of the new institution as follows: physics, chemistry and physical chemistry, automotive power, rubber, textiles, fats, cellulose, non-ferrous metals, mineralogy, geology, biology, including zoology and forestry, the technical side of defense research, electrotechnic mining, iron and steel, medical research and preventive medicine.

DISCUSSION

STYLISTIC INFELICITIES AND THE EXCESS WORD

MR. URBACH, of the department of English and history of the Massachusetts Institute of Technology, recently[1] has complained about the bad writing manners of "a great many American scientists." He is particularly aggravated about "stylistic infelicities," "excess words," circumlocutions and mixed metaphors, of which he gives a number of examples "from the current writings of scientists." Perhaps because these examples were all taken from the writings of social and biological scientists, the pertinent comments to date have been limited to one from a psychologist[2] and another from a botanist.[3]

Any one who has had to correct theses in the making is apt to lend a sympathetic ear to Mr. Urbach's complaints. But in reading the works of most full-fledged physical and biological scientists one is constantly amazed not that they write so poorly, but rather that they express themselves so well. It is true that some have a minor genius for mixing metaphors, yet few have produced such classics as, "I smell a rat, I'll nip it in the bud." And even the Bard of Avon did not lose his reputation when he wrote: "to take arms against a sea of troubles." Furthermore, however common or reprehensible may be *such* "stylistic infelicities" in scientific writing, the average scientist is not a habitual criminal when it comes to the sin of the *"excess word."* Not only is he likely to express himself succinctly, but, if he errs, there are the watchful editors of scientific journals to insist that the verbose mind their verbiage and to urge the commonly curt to become more consistently concise. There is a deluge of scientific papers submitted for publication, and a dearth of journals wherein they may be printed. So that, instead of the truly classical writings of some of the older scientists, we now of necessity can have only a sort of scientific shorthand which should be criticized not for the "excess word," but for the excised phrase.

We are all professionals at finding fault with our colleagues' writings, but we are tyros at correcting our own; nevertheless, since Mr. Urbach brought up this matter of the "excess word," perhaps he will permit us to examine his note in the light of his own criticism. He began:

"During the last six months I have analyzed from the point of view of their composition perhaps fifty scientific articles. My survey (if merely red-penciling errors and stylistic infelicities may be so dignified) was startling in its revelation of how badly a great many American scientists do write." Few real scientists would venture to express themselves in such a prodigal fashion. Many would have written:

"An analysis of the composition of some fifty scientific articles reveals how badly a great many American scientists write." And some editors would even blue pencil four of the nineteen words surviving out of the original forty-nine.

Mr. Urbach continued his discussion with two juicy paragraphs from which the average scientific writer could squeeze a veritable stream of "excess words," before he even arrived at his stated consideration of the crime of wordiness as illustrated by the writings of a number of scientific culprits. He began his treatment of the subject:

"Nothing makes for more cumbersome, pedantic writing than the use of unnecessary words." Nine of these very words are certainly unnecessary. Most scientists would write:

"Unnecessary words make cumbersome writing." And there are some disgruntled writers who would insist that scientific editors, with their fine disregard for context, might feel that even "Words make writing" was sufficient.

Mr. Urbach then goes on to cite another horrible example of the "excess word," apparently from the writings of some unsuspecting political scientist, concerning whose efforts he says:

"The italicized words boil down to 'undoubtedly

[1] W. F. Urbach, SCIENCE, 84: 390–391, October 30, 1936.
[2] E. G. Boring, SCIENCE, 84: 457–459, 1936.
[3] H. W. Rickett, SCIENCE, 85: 45–46, 1937.

because'; the two sentences become one. Of the fourteen words, twelve are unnecessary. Perhaps even the last phrase, 'to be reckoned with,' is a bit superfluous, too."

Translated into the language of the scientist the "excess words" are removed and there results:

"Since the italicized words mean 'undoubtedly because,' twelve are unnecessary. Even 'to be reckoned with' is superfluous." But of course we are belaboring the point. Almost any paragraph or sentence can be condensed, but commonly such reduction engenders rather than aborts "stylistic infelicities," and it usually plays havoc with the original thought as well. Nevertheless, in this day, when the scientist is blamed for most every excess under the sun, it may be well to insist again that he is not generally guilty of "excess words." True, he may not be a hardened criminal simply because he can't help himself. For instance, a recent number of the *Bulletin* of the Geological Society of America contained seven important descriptive papers, all of which had been thoroughly revised by the editorial board. Each had been materially reduced of the "excess word," the longest by as much as 42 per cent., or from 104 pages of manuscript to 60. Moreover, were this particular journal not heavily subsidized, papers of more than 20 pages, however important, probably would rarely be accepted. In the fields of chemistry, physics and mathematics the situation is still more acute, for even epoch-making discovries must be reported on a printed page or two. Instead of "excess words" in such papers there unfortunately may be almost no words at all.

To-day, when politicians, political and social scientists, novelists, administrators and reformers are all wallowing in a plethora of ambiguous words, it is an anomalous situation that many concise, unequivocal scientific statements of some real consequence remain unpublished. Therefore, although I admit both the general validity and value of Mr. Urbach's criticisms, I suggest that if he is really looking for the "excess word" he turn from scientific writings to more likely sources. He might delve into the *Congressional Record,* a metropolitan apartment lease, an income tax form, the public utterances of high officials or a certain novel which requires a thousand pages to portray what General Sherman, a scientifically trained soldier, aptly described in three words.

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HAS UTAH LOST CLAIM TO THE LOWER SONORAN ZONE?

FEW spots in the West have aroused more interest in the student of plant and animal distribution than a restricted area in the vicinity of St. George, Utah, located in the extreme southwestern corner of the state. The unusualness of this locality lies in the fact that it is a typical Covillea belt of approximately 350 square miles, surrounded on all sides by cold temperate flora except for a narrow, continuous strip of Lower Sonoran vegetation extending along the Virgin River through southern Nevada.

The St. George area has for centuries represented an extreme northern tongue of the southern desert shrub type. In October, 1776, Father Escalante described the presence of mesquite and numerous flowers blooming along the streams in the vicinity of St. George and contrasted the weather here with the bitterness of winter which he encountered but a few miles to the north. Brigham Young in 1850, realizing the semi-tropical nature of the locality, directed the immediate settlement of Utah's Dixie for the expressed purpose of growing cotton. In this part of the state the settlers grew not only cotton successfully, but also semi-tropical fruits, such as figs, pomegranates and grapes of various varieties.

Since the establishment of a weather station at St. George in 1890 sub-zero weather has been experienced in only three winters. On January 2, 1901, a low of −1° F. was recorded, but this extreme was of short duration and no damage to cultivated crops or native vegetation apparently resulted. During the winter of 1909, when low temperatures of −4° F. were recorded for three consecutive days, December 25, 26 and 27, figs and pomegranates were damaged considerably, but the native vegetation seemed to escape noticeable injury. January, 1937, brought the lowest and most extended duration of extreme temperature ever known in the St. George area. The following lows with dates appear in the weather bureau records: Jan. 21 −9° F., Jan. 22 −11° F., Jan. 23 −1° F., Jan. 24 −2° F., Jan. 25 −1° F., Jan. 26 −11° F., Jan. 27 −7° F. Widespread destruction to tender varieties of grapes, figs and pomegranates is now evident, and the chief plant indicators of the Lower Sonoran Zone, such as *Covillea tridentata* and the two mesquites, *Strombocarpa odorata* and *Prosopis glandulosa,* appear to be dead. Whether or not some of this native vegetation will throw new shoots later remains to be seen, but brown, water-soaked cambium layers even at the crown of most shrubs observed throws doubt on this possibility.

Aside from the suddenness with which vegetation may be eliminated from a rather considerable area, the tragedy of this prank of nature has definite bearing on the fundamental concepts of the factors of climate governing plant distribution. Especially does this wide-spread destruction of vegetation due to continued low temperatures emphasize the inadequacy of Merriam's theory of zonation in its failure to take into