tended to express the hope that these two, together with the well-known word *petroleum,* might establish domination over the oleaginous world. I suggest that *petroleum* is a Latin derivative, whereas the two new proposals are Greek-Latin hybrids that I believe scholars will advise American authors to avoid.

Lack of linguistic background is also indicated by such curiosities as the failures to realize that *rex* is the phonetic result of *reg+s*; and *lex,* of *leg+s* ("Exceptions . . . are such words as *lex* and *rex* . . . of which the plurals . . . end in *-ges.* . . . Attention has already been called . . . to the irregular formation of the plurals of . . . *lex* . . . *rex* . . ."); or that, while *mater* and *mother* are cognate, *mothers* was not derived from *matres* but is strictly English and quite unsuitable to offer as an "Anglicized plural" of *mater.* No clues to the best method of writing a plural of *alma mater* have been discovered in the report.

To add a lighter touch, I can not forego noting the naïve pun in the suggestion of simplification for *facies, series,* and *species,* ". . . the desirable action in the case of these nouns is to change, not the plural, but the singular, by dropping the final *s* and thereby creating a form truly singular in appearance."

As noted before, the committee appears to be permanent and to carry a certain indirect indorsement from the society even for its unpublished and unfinished ideas. In the January, 1929, issue of the *Journal of the American Society of Agronomy* is printed a short report[5] as a keynote of an eventual more complete statement happily not yet in evidence. This brief recent report is perhaps the most startling of the three. The committee now seems to be specializing in infinitives and past tenses, for example:

> The past tense of many hundreds of similar verbs has only the one meaning of indicating the possession of the article or quality named.
>
> That this is the common usage is indicated in several other ways than by the use of the past tense. . . .
>
> In contrast to the many hundreds of words in which the infinitive or the past tense indicates the possession of the article or quality named in the root. . . .

I doubt whether any intelligent reader of the report can avoid concluding that the committee has confused the past tense and the past participle. If the committee had experimented with irregular verbs with their differences in form for past tense and past participle, concentration upon past tenses might not have received such wide publicity.

[5] Carleton R. Ball, *chairman,* Homer L. Shantz and Charles F. Shaw, "Report of Committee on Terminology" (report presented at the annual meeting of the society held in Washington, D. C., on November 22, 1928).

The word *dehulled* is featured. I admit regretfully that our own bureau is partly if not entirely to blame. About ten years ago the bureau began to use *dehulled* to avoid the confusion that was claimed to arise when varieties of barley with and without hulls were discussed. In subsequent years the use of *dehulled* has been extended somewhat, without much further thought or discussion. With a bureau publishing as largely as ours, and with close contacts with many state agricultural colleges, it is easy to see how not only papers dealing with barley but also those dealing with other cereals should soon bristle with the prefix *de-,* and the adjective *hulled* should sometimes mean with hulls on, and at other times should mean with hulls removed.

Elsewhere[6] I have suggested the use of the nounal adjective *hull* in place of the participial adjective *hulled* in describing barley that retains the hulls. For example, there is no objection to having black-*hull* barley hulled, though it does seem foolish to have black-*hulled* barley hulled. Omitting the adjective *black* makes the contrast even better. Hull barleys, then, will not be confused with hull-less barleys. Whether or not this simple suggestion for solving the problem of the agronomist's *de* will be "recognized by the dictionaries," I prefer to leave to the dictates of good usage, guided if possible by the advice of specialists in philology rather than in agronomy.

That it is often desirable to add new words or to make other changes in a language is beside the question. All writers favor coining new words when they are needed, or otherwise aiding in language growth. The requisites of conciseness, clearness and exactness of definition, and suitability and propriety of words or plans should be uppermost, however, in the minds of any language amateurs. No one scientific or technical group, furthermore, should try to change our language except to the extent essential for accuracy, brevity and facility of expression of the technicalities peculiar to that group.

In all probability the American Society of Agronomy has been acting carelessly or thoughtlessly under the pressure of its enthusiastic committee on agronomic terminology. Whether this brief outline of some of the unfortunate features of the committee point of view will lead to more sober second thoughts only time can tell.

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THE EUROPEAN STARLING IN ILLINOIS

THE European starling was introduced into the United States about 1890, and since that time has spread rapidly westward until its western limits are

[6] K. F. Kellerman, "'Hulled' and 'Dehulled,'" *American Speech,* 4: 186. 1929.

now Iowa and Kansas. The first report of the starling in Illinois was apparently that of Professor Frank Smith, of the University of Illinois, in 1922. These were observed by Professor Smith and the writer, and an attempt was made to secure several specimens, but without success. The latest report gives eight records for Illinois.[1] Of these records, only two are of specimens taken and preserved, at Quincy and Godfrey on the Mississippi River.

That the starling has become a resident of Illinois is fully attested by its presence with large flocks of the bronzed grackle. Every year local reports are received of the presence of the bird in Urbana and vicinity. Recently (January 5) five starlings were brought into the museum by Mr. Reinhold Bialeschki, living on a farm at Sodorus, Champaign County, where they were found roosting with pigeons in the evening. Mr. Bialeschki reports that they were captured by hand after dark. They were in fine winter plumage, and there appeared to be four males and one female. More recently, a specimen was brought in by Miss Dameier on January 17, from Lena, Stephenson County, near Freeport. This is in the northwestern part of the state and is farther west than the previous records from the northern part of the state. While winter records are becoming common, spring and summer records are rare, although a pair are recorded as having bred at Texico. The specimens noted above have been incorporated in the research collections of the university museum.

The five specimens from Sodorus were kept alive for several days. They were confined in a sparrow trap in which entrance could be made only by the small door at the trap and this opened *inward*. On the second day myself and family were away from the house for several hours in the morning, returning early in the afternoon. What was our surprise to discover three of the five birds flying about the house. It was later observed that the birds had learned that the door could be pulled inward and had thus been able to force the door open far enough to squeeze out of the cage and escape by the space in which the balanced trap operated. Later a heavy cloth was placed over this end of the cage, but even this did not prevent several birds from escaping. To the students of animal behavior this is interesting as an example of comparative intelligence in birds. During their captivity, every wire in the trap was pulled and twisted in an attempt to get out, and this method probably caused the discovery of the movable door.

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[1] See Cooke, Circ. 40, U. S. Department of Agriculture, November, 1928.

DISPERSED STAGES OF THE STIGMA IN EUGLENA

SOME observations on the stigma of *Euglena gracilis* and *Euglena* sp. are of interest in connection with the commonly held view that such organelles of flagellates are modified chloroplasts, and that they divide during fission of the organism (Klebs) or may be formed *de novo* in one of the daughter cells (Korshikov). In flagellated forms of *E. gracilis* the stigma varies in diameter and thickness, and in size and number of its component granules. The granules may be large and few in number, or they may be numerous and so small that it is difficult to resolve them optically. The stigma, therefore, is not constant in structure in the species examined, and seems rather to be a loose aggregate of pigment granules of various sizes, possibly embedded in some sort of a homogeneous matrix. In non-flagellated ("division-cyst") stages of *E. gracilis* a number of reddish-orange granules are often seen in the inter-alveolar spaces; these are identical in color and similar in size to the granules of the stigma in flagellated stages. In some cases most of the granules are grouped in a loosely granular mass comparable in appearance to a somewhat diffuse stigma. In cells without such aggregates the granules are widely scattered. A "condensed" stigma like that of the flagellated form has not been observed in division-cysts. These facts point to the occurrence of a dispersed phase of the stigma in the life-cycle of *E. gracilis*.

The junior author, in continued observation of living flagellates, has traced the stigma through binary fission in *Euglena* sp. In the prophases the stigma breaks up into its component granules, which become scattered through the cytoplasm. In metaphase or early anaphases the granules become rearranged in two loose aggregates, one near each daughter gullet. These two aggregates persist through later anaphases and telophases, and give rise to a definitive stigma in each daughter organism.

If Grasse's view, that the stigma of Euglena represents the Golgi apparatus, be accepted—and its reaction to methods for demonstration of the Golgi apparatus supports such an interpretation—these observations afford an example of change in form of the Golgi apparatus in a free-living flagellate. In one species this involves a breaking up of the definitive Golgi apparatus into discrete granules in binary fission, followed by a rearrangement of the granules into two aggregates, one in each daughter organism. In the other species, there is a dispersal of such granules, varied with the formation of loose aggregates, in the non-flagellated division-cyst stages.

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