ment agrees with Smith's earlier statements; Bulletin 17.)

3. Typical watermelon-wilt in the pots inoculated with the watermelon-*Fusarium*. All of the ten plants growing in this autoclaved soil contracted the disease. They were watered with distilled water until the plants began to develop the wilt, and then they were watered with ordinary hydrant water.

(4) All the uninoculated plants (30 pots) remained free from disease.

Because one fungus in a group is a feeble parasite, it does not follow that all are, and especially in the absence of experimental data. The writer never maintained that all species of the form-genus *Fusarium* were active producers of disease. In fact, when he began to study this group, all of them were supposed to be saprophytes, and he was, I believe, the first one to maintain and *to demonstrate* that certain members of the group are among our most destructive fungi. This work has been built upon largely in certain quarters, with very scant credit to the writer. Such matters, however, even themselves up in the long run and credit finally goes where it belongs.

The moral of all this is that when one assumes the rôle of critic he ought to be reasonably certain of his facts.

ERWIN F. SMITH

August, 1907

ENGLISH AS SHE IS WRITTEN

EVER since it was authoritatively decided that "The United States is," and not "are," there has been increasing departure from what was not long ago considered good grammar, especially in the newspapers. We do not expect the "dailies" to lead in correct diction, however desirable this would be from the fact that the reading of the bulk of our population is done in their columns, and serves the younger generations as their preferred literary food. We are so accustomed to having the papers pervert the nation's English that we rather expect to see all kinds of grammatical and syntactic horrors perpetrated in our morning papers. And SCIENCE could hardly be expected to bring much pressure to bear upon the journalistic world in inducing them, *e. g.*, to use the nominative instead of the accusative case when stating that "whom it is well known has been," etc., a form to be found in every daily for the last two or three years. But when SCIENCE, as well as some other journals of high standing, admits into its columns such statements as that "the underlying strata was a soft limestone," and that "this phenomena was closely observed by us," and that "we owe this data to the courtesy of Mr. ——," it does seem that the restriction of the scientific curriculum to so much language study as is provided for in the high schools is proving unfortunate. Perhaps the inauguration of the much-needed spelling reform, which is considered by some as obliterating important landmarks, has contributed to the feeling of linguistic irresponsibility on the part of juvenile specialists in particular. But would it not be proper to consider the correction of such palpable mistakes as part of the duty editors owe to the public; if only to prevent us from being charged with illiterate perversion of the language by our cousins across the Atlantic?

E. W. HILGARD

BERKELEY, CAL.,
August, 1907

[The proofs of SCIENCE are read each week by three professional proofreaders, and most, though unfortunately not all, grammatical errors are corrected. Errors such as those quoted by our correspondent are like infringements of the etiquette of polite society—they are especially dreaded; but they are minor matters, and may indeed be in the line of linguistic evolution. It must be admitted that the English language is used with greater correctness and skill by men of science in Great Britain than in the United States. This is probably due to the fact that English men of science come as a rule from a comparatively small class in which the use of correct English is a social tradition.—EDITOR.]

THE ARTIFICIAL PRODUCTION OF MUTANTS

IN SCIENCE for July 19 Professor T. D. A. Cockerell gives an appreciative review of Tower's "Investigation of Evolution in Beetles of the Genus *Leptinotarsa*," a recent

publication of the Carnegie Institution, and in a closing paragraph says:

> One of the truest tests of the intellectual status of a country is found in its ability to quickly realize the importance of a work of the first class. Since this book came out I have asked a number of naturalists whether they had read it, and so far have failed to find one who has given it more than superficial attention.

It had appeared to me for some time that botanists in the United States were in something the same case as the zoologists in regard, on their part, to the one successful series of demonstrations that have yet been made of the production of mutants of plant species by means of definite chemical stimuli. It was, therefore, a pleasure in reading SCIENCE for June 7 to find that Dr. James B. Pollock (presidential address before the Michigan Academy of Science) had clearly recognized the significance of recent experimental work with plants, which, perhaps, still more fully than Tower's work on beetles, has established the mode of origin of certain species. To quote from Pollock: "De Vries offers no explanation as to how these new characters are produced, but MacDougal has succeeded in producing new modifications by artificial means . . . injecting various substances into the capsules of plants experimented upon, before the eggs were fertilized," leading to the "important conclusion that in an early stage of development of the plant egg it may be so profoundly modified that the adult plant resulting from it is decidedly different from what it would have been had the egg not been so modified, and the modifications thus produced are transmitted to the next generation through the seeds."

With this very definite presentation of the subject I am disposed to assume that the work referred to is, after all, well known to botanists, but that thus far only here and there one has taken occasion to refer to it in generally accessible publications. Be this as it may, I wish to heartily second the efforts of Professor Cockerell in calling attention to the epoch-making character of Tower's experimental study of the potato beetles and their allies, and to place with them the equally important work of MacDougal, recording at the same time my conviction that there is no line of biological investigation, with which I am acquainted, that better deserves support or the abandonment of which would be a greater loss to science. I can hardly think, however, that the Carnegie Institution, one of the chief functions of which is to discover just such "leads" and provide for their following through to a successful issue, will abandon either of these investigations, already the most fruitful in actual results that have been undertaken since the "Origin of Species" appeared.

V. M. SPALDING

TUCSON, ARIZ.

SPECIAL ARTICLES

PATAGONIA AND ANTARCTICA[1]

IT seems that the study of the fossil fauna of South America should attract the attention of the congress, at this time when increasing efforts are being made to enter into touch with the problems of the antarctic world.

Since the discoveries of Carlos and Florentino Ameghino, numerous works on the fossil fauna of Patagonia have been published. We have been enabled to add some contributions to this literature from the rich collections sent by A. Tournoüer to the Jardin des Plantes.

Up to the present time, the researches in the northern hemisphere, whether in the United States or in Europe and Asia, have shown an agreement in the development of life. The progress of evolution has been so uniform that we find beings of the same epoch in almost the same stage of evolution on different parts of our hemisphere. Thus, from the stage of the development of fossil animals and knowing their genus or species, we can often estimate for geologists the age of the deposit (terrain) in which they are found.

Patagonia has just shown us that this is

[1] Paper read before the seventh International Zoological Congress, translated by L. M. F.