cyanide and plugged it up. In two days the scale began to fall from the tree and in a few days all appeared dead. Others hatched and attacked the tree, but lasted only a short time, and the tree has since been free from scale and very vigorous.

At the same time I bored a similar hole in an old peach tree which seemed to have passed its usefulness and put a like charge of potassic cyanide in it. The tree has since seemed more vigorous than before, and raised a fair crop of peaches. After feeding some of them to chickens and a rabbit with no apparent ill result, I ate some of the peaches, and could find nothing wrong with them. I have since put a similar charge of the cyanide in an orange tree with no apparent bad effect.

It would seem from this experiment that it is possible in some kinds of trees, at least, to poison scale and sap-eating insects without injury to the tree. The method would seem to be especially adapted to killing various kinds of borers and insects which, like the pine beetles, burrow beneath the bark.

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September 3, 1914

## Laboratory Cultures of Amœba

To the Editor of Science: While *Amœba* may appear in hay infusions within five days, even when in sufficient quantity, it is often not desirable for laboratory study on account of its extremely small size. Again standard text-books of general biology give tolerably certain methods for obtaining the organism, within, however, a much longer time—in some cases from 5 to 6 weeks. The writer hopes that certain notes on this part of the laboratory routine may be of help.

In preparing laboratory cultures of *Amœba* during the past three years, he has been led to collect material for his infusions from a number of different types of environment—stagnant and freshwater ponds, swamps, sewage polluted streams, etc., and to make *composite* cultures of the material obtained. Such cultures, if not infertile, in the writer's experience rapidly attain the peculiar balance necessary for the flourishing growth of the organism, and yield in a comparatively short time, in one case as early as six days, a type of *Amœba,* which, if not always large, presents considerable advantage over that inhabiting the hay infusion. Such cultures have been available for study as long as eight days. Very frequently, too, there are produced an abundance of Spirillæ, etc., which the *Amœbæ* obligingly ingest, while the whole microcosm seems to be one superior to that obtained in the infusion as ordinarily made. A number of control cultures made at the University of Pittsburgh and the Osborn Zoological Laboratory, Yale University, showed that *Amœba* eventually appeared in one or more of the components of the composite culture, but in every case later. Without any attempt at explanation, it seems to the writer, that there may be some parallelism between the condition of environment obtained in such a composite culture and that in the "varied environment medium" as described by Woodruff.[1] In conclusion, it is noted that the results of the experiments have always remained fairly uniform, although widely separated geographical localities have been involved.

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## The Origin of Mutation

The word mutation appears to have suddenly arisen in 1650, according to Lock. It appeared again independently two hundred and nineteen years later. This recent advent (1869) has been termed the "Mutations of Waagen" (1912). Darwin at times spoke of species as "mutable," and de Vries (1901) has made the word famous.

Since in the pages of this journal and elsewhere in the States there has been an attempt to show that the word was preoccupied in a sense different from that in which de Vries used it, the following quotation from Lock, "Recent Progress in the Study of Variation, Heredity and Evolution,"[2] may be interesting.

[1] *American Naturalist,* XLII.

[2] Third edition, 1911, p. 124.

Perhaps the earliest use of the actual word "mutation" in this sense is to be found in "Pseudodoxia Epidemica," by Dr. Thomas Browne. I quote from Book VI., Chapter X., "Of the Blackness of Negroes":[2] "We may say that men became black in the same manner that some Foxes, Squirrels, Lions, first turned of this complection, whereof there are a constant sort in diverse Countries; that some Chaughes came to have red legges and bills, that Crows became pyed; All which *mutations*, however they began, depend upon durable foundations, and such as may continue for ever."

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## PLEA FOR A STATUE IN WASHINGTON TO PROFESSOR SPENCER FULLERTON BAIRD

TO THE EDITOR OF SCIENCE: In Lafayette Square, opposite the White House in Washington, there are five statutes in bronze, all of heroic proportions. They are of military characters, only one of them being that of an American. Each commemorates deeds of war and bloodshed, and their accessories consist of the implements and munitions of warfare. In the various parts of this city, within and without the majority of the federal and municipal buildings, and in the museums, there are a great many statues—some in stone, some in metal—which have been erected to prominent characters in American history. A few of these are of foreigners, while the majority of them are of our own countrymen. In some instances, the same person had two or more such statues erected in his honor, while General Washington has apparently been favored with a half dozen or more.

Again, these duplications invariably have military men as their subjects; and the greater their exploits were in the way of leading men in battle, in which thousands of their enemies were slain, the more likely are we to find them thus distinguished. It is safe to say that at least eighty-five per cent. of all such statues to be found in the city of Washington are of military men; and it is truly discouraging, as well as disgraceful, to note how very few there are which have been erected to writers or to men of science in any of its many departments.

[2] Second edition, 1650.

On the Smithsonian grounds there is one to Professor Joseph Henry, and Doctor Samuel D. Gross has been similarly honored in a fine statue which appears on the grounds of the Army Medical Museum. A very few others are to be seen about the city or in the public buildings, not half a dozen altogether thus commemorating the works of any of our great astronomers, chemists, biologists, surgeons, artists, inventors and others who have long ago passed away, while their works and discoveries still redound to this nation's credit, advantage and welfare, and that with ever-increasing force and volume.

In line with the city's improvements, there has recently been formed a small, park-like, subtriangular square, at a point where, in the near future, there will be a grand entrance to the National Zoological Gardens. This is situated at the intersections of Sixteenth Street, Columbia Road and Mount Pleasant Street, in a section which promises some day to be one of the most attractive parts of the northwest part of the city.

There could be no better locality than this one, anywhere in the nation's capital, upon which to erect a statue to Professor Baird, nor could any one be selected, from among those who have gone before in science, to more appropriately occupy this spot than he.

Not only was Professor Baird largely responsible for the establishment of the National Zoological Gardens and Park; but, as every scientist is fully aware, from one end of the world to the other, he, of all others, did more during his lifetime to augment and build up American zoological science, to start and encourage the younger members of the profession, and withal to very materially add to the literature of biology as a whole, as he was the author and co-author of several formal volumes on natural history and of over a thousand papers on allied subjects. The establishment of the U. S. Bureau of Fisheries is almost wholly due to his energy and foresight; while as secretary of the Smithsonian Institution he has left a record which, for scientific achievement, enterprise and actual accomplishment, has never been in any way ap-