invented and used by my brother-in-law, Mr. Philip E. Brodt, now a student in Columbia College, when he was about five years of age and living in Dansville, N. Y. While several of the ordinary forms of secret language were known to the children of that town, this language, so far as is known, was a pure invention of Philip, devised probably for his own amusement. No one spoke it but himself, though other members of the family learned to understand it. The boy spoke ordinary English like the other children, and when five years old he spoke fluently this language in addition, when it pleased him to do so. Mr. Brodt still remembers the language, and has kindly transcribed in English and his own language some verses which he was in the habit of repeating at that time.

Hillie wad pa urpmle onkey
Climbup ing ye allsto wick;
Sen he whucked pe thaint aff oll
Mit ade dim heathsi lyck.
En whin dys hiing clour he hasped
Me thonkey in hand his
Band ade warefell wo tearth frand iends
Wand ent tino ba ettler and.
Mo nore she'll hoot lis hittsle ister
Ith whis guden woon,
Mo nore pe'll hull ke thittty's ail
Mand ake yer howl fun for.
Ke thittty's ail stow nands strup aight
Ge thun lis aid saïde,
Me thonky cloes not dimb mo such
Lince sittle Dillwie ied.

Willie had a purple monkey
Climbing up a yellow stick;
When he sucked the paint all off
It made him deathly sick.
When in his dying hour he clasped
The monkey in his hand
And bade farewell to earth and friends
And went into a better land.
No more he'll shoot his little sister
With his wooden gun,
No more he'll pull the kitty's tail
And make her yowl for fun.
The kitty's tail now stands up straight,
The gun is laid aside,
The monkey does not climb so much
Since little Willie died.

While the verses have the appearance and sound of gibberish, it will be seen that the modified words are formed from those in the original by simple transpositions of the consonantal sounds beginning adjoining words or syllables, and sometimes of similar vowel or syllabic interchange, with a few minor modifications apparently for euphony.

H. L. TAYLOR.

New York.

Habits of Gray Squirrels.

I WAS much interested in reading the article by Ray Greene Huling in *Science* of Dec. 1 because it gives positive testimony to what I have always believed in regard to the habit of parent gray squirrels taking their young to places of safety. Some years ago I and my companions had a mania for raising young gray squrrels. In our hunts in the woods we found that not more than one good nest out of five contained any young, and that if we did not secure the young when first found they were always gone when we came again. We explained the great numbers of empty nests by saying that they were to put the young in when the home nest was discovered.

I have raised several young gray squirrels. They were taken from the nest when they were still blind and their tails had not yet become bushy. I fed them with milk by means of a glass pipette, holding one end in my mouth to regulate the flow. I found this apparatus much more satisfactory than spoons or bottles with perforated corks and quills.

The habits of one of my pets in particular were instructive. This squrriel was taken from the nest in the fall, and after having learned to eat solid food was allowed to run at large in the house most of the time during the winter, often being carried for hours in the pockets of some member of the family. In the spring when the doors and windows were open the squirrel was allowed to run about the place. In the course of a month or so he had built *six* different nests in as many different trees and vines around the place—one in the honeysuckle on the front piazza, one in the Virginia creeper that covers one side of the house, and the others in the spruce trees on the lawn. During all this time he was tame enough to be coaxed into the hands by the offer of nuts, etc. As the weather grew warmer our pet became quite a nuisance frcm his habit of carrying off handkerchiefs and lawn neckties with which to line his numerous houses, and from his making a store-house of the bedroom next his nest, on one occasion actually storing a lot of nuts between the sheets of the bed.

For two or three days we noticed that our pet was making a very peculiar noise, something like a scold, but yet not a scold, and that at the same time he (or she) seemed very restless.

At the end of that time he disappeared, and as our neighbors, who lived near a grove about half a mile from us, reported seeing a squirrel which came close to them to be fed, we had no doubt it was ours, which had gone to the grove in search of a mate.

In robbing the nest of the gray squirrel I do not remember to have seen the old squirrels in or near the nest when I had climbed up to it. My experience with the flying squirrel was different. I frightened an old flying squirrel from her nest and while feeling in the nest for the young, the old one actually came back to the nest, and on my climbing away from the nest she entered. This was repeated three times. I finally put the nest in my soft felt hat, and when the mother went in I closed it up and took her and the three young ones to my house. The young were afterward drowned by the upsetting of a cup of water in their cage, but not until after the mother had nursed them for three days in their captivity. I afterward got three more young flying squirrels and raised them on milk. When grown they were very tame and affectionate, but were not as lively and playful as the young grays.

D. T. MARSHALL.

Metuchen, N. J., Dec. 14, 1893.

Sassafras Trees.

I WAS much interested and rather amused by a letter in *Science*, Jan. 5, from W. J. Quick, on the sassafras, in which he says that "it almost attains the dignity of a tree in size."

I should like him to see some specimens on Long Island, although they are, as well as all large trees, fast disappearing so near New York.

When I first came here, in the woods were sassafras trees that held their own for size with the oaks and hickory; although the trunks were not quite so large their heads were held well up with their more pretentious neighbors. I have taken the logs to mill and had them sawed for lumber and used it for many purposes and was greatly pleased with it in places where strength and lightness were desirable. I call to mind a set of sassafras hay shelvings

in use for over twenty years that were never painted. They were light, strong and very durable.

Since reading the letter referred to I have put a string around a venerable tree of the *Sassafras oficinale* growing near and found its girth two feet from the ground to be 130 inches, or a diameter of 43 inches—certainly a quite dignified tree. This stands in the open field and is as broad and spreading as an oak in the same circumstances. It is very picturesque and greatly admired by all lovers of fine trees. I have known it for fifty years, and men that were old when I first knew it told me that it was just as large ever since they knew it as boys, so it would seem that the memory of man runs not back when it was not a respectable tree.

I am a great admirer of the sassafras as an ornamental tree and think the example of the English, who are quick to see beauty in our forest trees, may well be copied in planting this tree. There is only one drawback ; it is apt to sucker from the roots, although the one above referred to never does.

On the North Necks of this island are many large trees of the kind, but none I know quite so large in trunk, though much taller. N. HALLOCK.

Queens, L. I., Jan. 21, 1894.

A Brilliant Meteor.

LET me, in the hope of securing other accounts of the same phenomenon, report a remarkably fine meteor just seen by me.

As I, with a large number of other persons, was leaving the train at Newtonville at twelve minutes past six o'clock this evening a very brilliant meteor was seen to fall in the western sky.

We were looking directly west. The sky was absolutely cloudless, and the full moon was perhaps an hour high and, of course, at our backs. The meteor very much resembled a rocket or perhaps more strictly a large fire ball from a Roman candle. It came down the sky at an angle of about 45 degrees and from a point in the northwest perhaps 40 degrees above the horizon, where it first attracted our attention. It gave off many sparks and fiery streaks, which, however, remained visible in the bright moonlight but an instant. Its color was variously reported as white, blue and bluish-white. It seemed to me to be yellowish-white. It disappeared behind some buildings or a group of trees and still at full brilliancy and perhaps from 5 to 10 degrees from the horizon. From the hour at which the fall occurred and the remarkable and crystalline clearness of the sky, I am hopeful that it was observed and will be reported by many others, and that the falling body may have reached the earth before it was entirely consumed.

I have given the best judgments I can of distances in terms of degrees, but am aware that these may not be very accurate. My own impression was that the meteor was visible 5 or 6 seconds, but my nearest companion thought the time was fully 10 seconds.

The apparent rate of movement was that of a rocket after its culmination but before it has fallen very far, *i.e.*, the motion was slow as compared with that of many "shooting stars." C. H. AMES.

Newtonville, Mass., Jan. 19, 1894.

The Erilepidinæ.

IN my recently published "Families and Subfamilies of Fishes" (p. 135) appears the family *Anoplopomidæ* with the subfamilies *Erilepidinæ* and *Anoplopominæ*. In answer to a question, what is the former (and which may be repeated), I would state that *Erilepidinæ* is a subfamily for *Erilepis*, and that the generic name is simply a substitute for *Myriolepis* of Lockington. Lockington's name was given in 1880, but Egerton, in 1864, gave the same name to a Triassic genus of palæoniscoid fishes, and consequently another has to be supplied for Lockington's genus.

The *Anoplopomidæ* are closely related to the *Hexagrammidae* but appear to me to be sufficiently distinct. *Erilepis* (=*Myriolepis* Lock.) is most nearly related to *Anoplopoma*, and both undoubtedly belong to the same family. *Erilepis* is not closely related to *Agrammus*, with which it has been associated.

Myriolepis (Egerton) has been well differentiated by A. S. Woodward in the second volume of his "Catalogue of the Fossil Fishes" (pp. 430–515).

THEO. GILL.

Washington, D. C.

Fungi and Insects.

IN a late number of *Science* (No. 556, pp. 218, 219) Professor McCarthy discusses, under the head of "Fungi versus Insects," methods which have recently been largely used for the prevention of insect and fungous depredations. He seems to decry especially the use of fungicides, believing that they lead to more slovenly methods of cultivation and a neglect of hygienic plant conditions. The modern tendency is to prevent diseases rather than to await their coming and then cure them ; and Professor McCarthy seems to be arguing against one of the most potent agents which science has called to the aid of the agriculturist. There is no one to defend the practice of some grape-growers of using copper preparations so freely as to "plaster" the fruit with chemicals. The fault lies not with the remedy but with the method of applying it. If the directions given in every bulletin on fungicides be followed, there is no reason for having the fruit coated or even spattered with copper. Neither does it seem any argument in favor of abandoning the use of fungicides because they still cause a loss of $300,000,000 a year ! The question of course is, how much greater would the loss have been if fungicides had not been used at all. It has been shown in a recent bulletin of the Department of Agriculture[1] that over $30,000 was saved by only 250 growers in treating diseases of the grape alone. Other experiments have shown that many other diseases, such as apple scab, potato blight or rot, strawberry blight, etc., can be entirely prevented by the proper use of copper or other preparations. Furthermore, the argument advanced that, because the labor of one man or of two men can be vitiated by the lack of attention of a third, no good has resulted, is certainly fallacious.

It is difficult to see how "pathogenic, contagious disease-producing fungi or bacteria" can remedy matters very much as far as fungous diseases are concerned. It is scarcely probable that methods which are applicable for the destruction of insect enemies to plants, such as micro-organisms, can be used with success to destroy the fungi that may attack the same plants. While "an automatic antipest destroying agent" would be a good thing, supposing such a thing to exist, would the slovenly farmer become any less slovenly through its use ? Or would the careful farmer be any less or any more careful ? The investigations of Professor Forbes in Illinois and Professor Snow in Kansas have been instrumental in decreasing the ravages of the chinch bug and saving large sums of money to the farmer. These experiments have not, however, proceeded far enough to enable us to congratulate ourselves that we will be able to supply the necessary ammunition to destroy all noxious insects. Let us hope it will be

[1] Bull. No. 3, Div. of Veg. Path., p. 69.