

use half a ton to the acre. In answer to questions he said that the cultivation of tobacco had not in his observation exhausted the soil; he took good care to keep the ground in good condition by applying the proper fertilizers.

Mr. KENNEDY said that in regard to the guano, it gives a good healthy start to tobacco, but at the time of cutting saw no difference. We must learn to ease tobacco; we better learn to cultivate it, however, before we undertake to ease it. A man should not ease it unless he has a pretty good quantity. It is not worth while to begin with a few cases.

Mr. SHIFFNER said that in the use of Peruvian guano he had not observed any difference from the use of manure.

Tobacco Houses.

The question of the construction of tobacco houses was then discussed.

Mr. HOOVER said it was a very important thing to think about. All tobacco houses, he thought, should have a good cellar under the whole house. A great mistake is often made in stripping and preparing tobacco for market. Tobacco of a certain grade should be classed by itself. This was not exactly on the subject, but he would throw out this hint anyway. You might construct houses in a profitable way by constructing them for grain houses as well as for tobacco houses. He would not use it for these two purposes at the same time. It could be constructed in such a way that all the timbers could be removed, with few exceptions. You could use your cellar for storing turpids, potatoes, &c.

Mr. KENNEDY would prefer for the site of a tobacco house a southern slope. He would partition off the stripping and storing room convenient to each other. He would avoid as much as possible all cross beams, so that you can walk without stooping. There is an advantage in having the doors horizontal instead of vertical.

Mr. MAYER said he had cellar under only part of his house; experience taught him to have a cellar under the entire building. A cellar should be no less than 9 feet deep. If we want a building for tobacco we must construct it for that purpose alone. If you keep the tobacco in the dark, it will cure dark. Splitting the stock in drying, he thought, should be avoided.

Referred Questions.

The following questions were then referred:
"What are the best methods for destroying cut worms?"

"What are the best methods for setting out tobacco plants?"

The former was referred to Harry Mayer, and the latter to Jacob Frantz.

Proceedings of the Bee Keepers' Association.

The regular meeting of the Lancaster County Bee Keepers' Society was held at 2 o'clock on Saturday, May 5th—Peter S. Reist, President, in the chair.

The minutes of last meeting were read by the Secretary, H. H. Myers, and adopted.

The following reports were then delivered:

Mr. A. H. SCHUCH made a statement that he had very poor success in wintering his swarms, having lost six out of eighteen. They were, however, the weakest hives.

J. T. HERSHEY reported that although he gave his hives all the attention possible, he lost fifty out of one hundred swarms. He attributed the trouble to living in a low situation on the Conestoga, but perhaps the cold weather was to blame principally for the great loss. His bees are well wintered, covered and sheltered.

E. HERSHEY reported a better state of things. Out of thirty-four he lost but one swarm. Kept them on a summer stand. Had plenty of honey, and are all strong now.

L. FLECKENSTEIN lost four out of sixteen. Were kept on summer stand, without unusual shelter, on the north side of the house.

H. HUBER started into the winter with seven hives, and still has them all. They are strong, and were so in the fall. Keeps them on a summer stand. They are now busy laying up their usual store.

D. KRIDER has five stands—the same number he had in the fall. They are strong, but he has fed them all winter. A swarm that came late in the fall eat 20 pounds of sugar.

Mr. G. E. MENTZER related that he has one hundred and twenty swarms in Fulton county, which have all stood the winter remarkably well. In August he transferred ten swarms and lost them all. He is not in the habit of sheltering his hives in winter. Being bloodless he does not believe bees freeze so soon as is generally supposed. This gentleman had a patent hive for exhibition, which was carefully examined by the members present.

A discussion followed this gentleman's remarks on bees freezing. It was held by several members that it was common for bees to become so numb by exposure, that although the hives were full of honey they virtually starved from not being able to reach their food. Some held that bees were easily frozen to death, while others believed the contrary.

JOHN DICKEL reported his single hive as having wintered well in the garret.

Mr. H. H. MYERS, the Secretary, reported his

hives as having done reasonably well, as he lost two out of twelve. He fed them abundantly during the cold weather.

Mr. REIST, the President, said he had fifty swarms in the fall, but lost ten swarms, which he attributed more to neglect than anything else. His bees were flying about on nearly every fair day during the cold season.

W. B. DETWEILER's success was not very good—he having lost about 40 per cent. of his swarms, but he hopes to build them up if the year is favorable.

Referred questions were called up. The first was: "What are the advantages of the movable comb hive over the box hive?"

Mr. HUBER gave a number of reasons why the former were superior. The Secretary had both kinds; he had one box hive, and the swarm that lives in it is the very best he owns.

The next question was, "What is the advantage of the Italian over the Black bees?"

Mr. FLECKENSTEIN could not see much difference between the two, except that the former are more peaceable.

Mr. MYERS was entirely in favor of the Italians—was in favor of getting rid of the black ones by banishment.

Mr. E. HERSHEY thought the only advantage of the Italians was their ability to extract honey from red clover blossoms.

Mr. J. F. HERSHEY said mistakes were often made in confounding pure and hybrid queens. Italians stored honey faster than the others—often the former gathered a large surplus while the others could not gather enough to sustain themselves. The Italians were, besides, cleaner than the blacks and could whip them.

The third question was, "Can bees hear?"

On this point Mr. HERSHEY gave an affirmative opinion, founded on certain noises made by the queen at certain times. If the queen is laid apart from the hive the peculiar humming made by her is at once noticed, and they seek her.

Mr. MYERS also believed bees hear; if a bee is taken up in the hand and held, (its wings being allowed to vibrate,) it at once attracts the attention of the rest.

Mr. FLECKENSTEIN was also of this opinion, which he supported by various arguments.

The fourth question was, "Which is the quickest and best way to hive a natural swarm of bees?"

Mr. FLECKENSTEIN and others participated in the discussion.

Mr. HUBER was of the opinion that the bees should be emptied in front of the hive and allowed to go into it themselves. If put into the hive they often come out again.

Mr. J. F. HERSHEY described several modes of securing natural swarms.

Mr. MENTZER thought natural swarming was a humbug. He believed in the artificial process; you can in this way produce artificial swarming or prevent swarming altogether.

Mr. HERSHEY wished to know whether, if a hive swarmed naturally, we were to let them go? Sometimes a hive will swarm while it has ample room and ventilation.

Mr. FLECKENSTEIN also believed there was no way to prevent swarming.

The President interrupted the regular course of business by calling upon Mr. Mentzer to give his views on the question of bees attacking fruit. The latter gentleman related how he had watched bees in their visits to vineyards and grapevines, but found that they invariably went to fruit which had already been attacked, but never did any damage to perfect fruit.

Mr. J. F. HERSHEY confirmed Mr. Mentzer's view. Never knew bees to attack sound fruit—they always go to such as is already injured.

Mr. HUBER agreed with the above; his experience was similar.

Mr. FLECKENSTEIN has grapes all around his bees, but the bees have never injured them; the bunches hang all around the hives.

E. HERSHEY also spoke in favor of the bees; in fact, the opinion of the members was unanimous in rejecting the theory of bees attacking sound fruit.

The 5th question was, "Which is the best way to introduce a strange queen into a colony of bees?"

Mr. J. F. HERSHEY gave his experience on this interesting question at length. His plan is to put the stranger queen into a wire cage and hang it into the hive for several days until she acquires the scent common to the bees in the hive, when she may be liberated. If honey is plenty the danger to the queen is not so great; but if it is scarce this is not the case, and the queen is likely to be stung.

Question 6th and last was, "Which is the best way to transfer from box to movable frame hives?"

Mr. J. F. HERSHEY gave an elaborate description of his method, which was very interesting, but too technical for any reporter to follow or to attempt to report correctly.

Mr. FLECKENSTEIN also related his experience, which agreed in most particulars with that of the last speaker.

The question whether brood can be successfully produced in March was also taken up. J. F. HERSHEY's opinion was that occasionally it could be done, but success was exceptional.

A special question was taken up.

"How near the ground ought a hive to be placed during the summer?"

Mr. HERSHEY thought the hives ought to be elevated very little above the ground; in this way the bees are removed from the higher currents of air, and reach their hives more easily.

Mr. MYERS thought they should be nearly if not quite on the ground. He means so to place his hives next spring. When too near the ground the bees furnish toads with many hearty meals.

The President suggested to the members that they observe the comparative effects of natural and artificial swarming, to find out which process gives the best results.

There being no other business before the society, it adjourned until the second Monday in October.

The Linnæan Society.

The Linnæan Society held their stated meeting on Saturday, April 28, 1877. President, Rev. J. S. Stahr, in the chair, and nine members present. The preliminary business being attended to, the few donations to the museum were found to consist of a fine mounted specimen of the coot or mud-hen (*Fulica americana*) shot on the 21st inst., by Mr. H. H. Rohrer, near Paradise, in this county, who left it in the care of S. S. Rathvon. Mr. R. fearing it might spoil if longer kept, had it skinned and mounted at a cost of \$2.50, without consulting Mr. Rohrer, supposing it was intended for the society, and so paid for it. A specimen of oxide of iron found by Mr. Julius Shuman, near the borough of Washington, who talks of sinking a shaft, that possibly an out-crop of the Chestnut Hill ore bank might be unearthed in that place. A charred "bracket," rescued from the fire that consumed the Market street bridge, of Philadelphia, a short time ago, per Mr. Andrew Meisel. This bracket a hundred years hence of the renowned structure called the "permanent bridge" may become valuable as a historical relic. To the historical section were added, also, two envelopes containing 27 clippings from papers per S. S. Rathvon. Our library was improved by having 39 volumes bound of various works received in numbers. Through the kindness of Mr. Stone, librarian of the Pennsylvania Historical Society, we received 14 numbers, a series of reports of the regents of the New York university of natural history. Also, from Mr. Wm. Saunders, editor of the *Canadian Entomologist*, No. 12, of the volume for 1876, containing an illustrated list and description of the *Cantharidae*. On motion a vote of thanks was given to both gentlemen for their donations. Catalogues of publishing houses and book notices were also received, and the April number of THE LANCASTER FARMER.

Papers were then read from corresponding members. No. 564, on the albinism found in various species and genera of birds that came under the notice of W. J. Hoffman, M. D., of Reading, who describes the abnormal appearance in plumage such as white or partially white blackbirds, crows, robins, &c., both interesting and curious to the naturalist. No. 565, written by Mr. A. F. Birkin, of Reading, was a highly interesting document on archaeological research and discoveries made. The members present express their thanks to their worthy correspondents of Reading, and assure them that their communications were gratefully received. This being chiefly a business meeting, the secretary reported that in compliance with the request of the society at the meeting previous, he had 100 circulars printed and filled out, enclosed in envelope, addressed to delinquent members and queried as to getting them distributed. When the following resolutions were offered and adopted:

Resolved, That the secretary be authorized to send them to the parties addressed by mail, at the expense of the society, and that those who receive them will please call and pay the same to the treasurer of the society, S. S. Rathvon, 101 North Queen street, who is authorized to receive the same.

Resolved, That as the funds of the treasury are more than exhausted, in the necessity of meeting bills due, for binding many valuable volumes, as ordered by the society to improve their library, it is hoped that the members will feel it a pleasure, as well as their duty, to respond promptly and make payment.

Mrs. Zell laid on the table the early saxifrage and tooth wart, culled in the vicinity. The *Saxifraga virginiana*, so named by Michaux, is common on exposed rocks. The other is the *Dentaria*, first found and described by our fellow-citizen of botanic fame, Dr. Muhlenberg, as the *D. laciniata*, grows in rich soil. Under scientific gossip, various topics were discussed. Mr. A. F. Hostetter suggested the propriety of getting the address of Mr. Bear on the Pennsylvania Germans, and a sketch lately published in reference to Ephrata, to file away among our historical archives. After some pleasant interchange of thought and opinions, the bills for binding books \$25.14, for printing blanks \$1.15, and postage 30 cents, were presented and ordered to be paid. A motion to adjourn, and make room for the bound books, was then made, and a look and key ordered to be provided, when the society adjourned to meet on Saturday, the 26th day of May, 1877.