THE PASSENGER PIGEON
By W. W. Thompson, Coudersport, Pa.

The female bird at the left is Martha, died in Cincinnati zoo in 1914. Male bird made up from picture of Martha and description of writers at different times on the pigeon question.

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The earliest mention of Passenger Pigeons, once so plentiful, now extinct, appeared in a report of two voyages to New England made during 1638 and 1663, by Joseph Josselyn, published in 1674. "The Pidgeons, of which there are millions of millions, I have seen a flight of Pidgeons in the Spring and at Michaelmas, when they returned back to the Southland for four or five miles, that to my thinking had neither beginning or ending, length or breadth, so thick I could see no Sun. They join nest to nest and tree to tree by their nests, miles together, in Pine trees. I have bought in Boston a dozen pidgeons already pulled and garbled for three pence. But of late they are much diminished, the English taking them with nets." It took more than two hundred years "diminishing" to reach the vanishing point.

In 1759 Peter Kalm writes of the vast number of pidgeons in Pennsylvania and New Jersey in the Spring of 1740, describes their habits, etc. In their flight coming in, lasting for seven days, often the light was sensibly diminished, limbs as thick as a man's thigh were broken off where they roosted. About a week after these pigeons left "a sea captain by the name of Aimes, who had just arrived at Philadelphia, and after him several seafaring men, stated that they had found localities out at sea where the water to an extent of over three French miles was entirely covered by dead pigeons." "It was conjectured that the pigeons, whether owing to a storm, mist or snowfall, had been carried away to the sea, and then on account of darkness had alighted on the water and in that place and manner met their fate." This seems to be a well authenticated account of Pigeons drowning in the Atlantic, and so far as we know the only one—more than one hundred years before the pigeons became noticeably "extinct." Some years after the pigeons were practically gone we read an item almost identically the same as the Kalm report, even to the "French Miles" in some paper, and we believe this is the foundation for all of the stories that the birds perished by drowning in the Atlantic Ocean.

Peter Kalm also wrote of a Journey to Canada in 1749, and passing through a pigeon nesting. This is noticeable from the fact that it records a pigeon nesting in an odd numbered year. He states that the Governor General of Canada had on two occasions shipped quite a large number of pigeons to France to be turned out in French forests. A descendant, probably, of these shipments, mounted, is one of the prize specimens in the Paris Public Museum.

John James Audubon, the great Naturalist, as early as 1810-13 devotes much space to pigeons. He estimated the number up in the billions, and their daily food at 8,712,000 bushels. He writes of the trapping, shooting and squabbing in his day which to him seems to cause an enormous death rate, and says, "Persons unacquainted with these birds might naturally conclude that such dreadful havoc would soon put an end to the species. But I satisfied myself by long observation that nothing but the gradual diminution of our forests can accomplish their decrease, as they not unfrequently quadruple their numbers yearly and always double it." He estimated in
1810, 5,000,000,000 birds in the three States, Kentucky, Ohio and Indiana, at the same time there were nestings in other States. At this rate of increase how long would it require to overrun the entire pigeon section from the Plains East to the coast, and from the Gulf to Hudson's Bay. They simply did not increase at any such rate.

True, immense numbers (as we would rate them now) were killed by animals and birds, at nesting times but these were only killed by the virmin able to obtain a living before the birds came, they did not increase with the pigeons at that particular time. Shipping facilities were such that man killed principally for local use, for very many years. We think it must have been in the '60s that market pigeoners became much of a factor, during the Civil War not much attention could have been paid to the shipping of pigeons to market, and it was not until the '70s that the "great slaughter" took place.

Michigan was the greatest of the pigeon States from the fact of having the best transportation facilities, by rail and water. Kentucky, Indiana, Pennsylvania, and in fact all States having hardwood forests were the nesting grounds of the Passenger Pigeon, and later in the season so much of Canada as had the hardwoods. Some early settlers believed the birds nested every month in the year except February, it is doubtful if they nested more than from two to three times the same year, according to the supply of food.

The greatest slaughter of pigeons for market took place in Michigan, in 1876 and in 1878, and from the fact that after this time there were few nesting anywhere, the disappearance of the pigeons has been laid to the ruthless killing in these two years. A writer estimates from the Shelby, Michigan, nesting in 1876, a shipment of millions of birds and from his basis claims that in ten years, three nestings a year, accounts for 9,000,000,000 of a billion a year all told. This estimate is manifestly very much too high. From all we have been able to learn from numerous authorities, 2,000,000 birds from Michigan in 1878 would be nearer right, but even double it. The 1876 nesting was a record breaker up to that time, and there were still other nestings that year in other states. Two years later, in 1878, there were even larger and more nestings in Michigan and a catch of 1,500,000 birds accounted for, probably 2,000,000 in all including 250,000 live birds, from Boyne, Crooked Creek and the Petowsky section. These two years the catches were greater by far than ever known before. There were several other nestings in the State this year and from most of them few birds were taken, owing to location of the Colonies and difficulty of getting to market. From the destruction of birds in Michigan in these two years dates the great decline of pigeons as given by all writers on this question. It was practically the end of Pigeoning in Michigan.

It is related on the best of authority that 132 dozen birds were caught at one cast of the net. Dr.E. Osborn of Saratoga, N. Y., caught 3,500 at one time. He prepared a pen five feet high, one hundred feet long, by twenty feet in width, baited it for several days using as much as forty bushels of corn at one time, and using several nets to spring over the top of the pen. This was a new plan and fortunately not generally used.

The slaughter was great in 1876 and 1878 but it does not account for the extinction of the pigeons; there were several other nesting in Michigan from which few pigeons were taken and during the year 1878 the birds were nesting in Potter and Elk Counties, in Pennsylvania and under a law passed in the spring no netting of pigeons was permitted
during the nesting season and no shooting within one-fourth of a mile of nestings. From Pennsylvania, the increase must have been large, as there was no netting in Potter County, and at Sheffield where the birds nested earlier the law cut the netting seasons short. The Senate had provided before the Governor signed the bill for printing and distribution of the Act, and the law took effect as soon as signed.

Many observers claim that in 1878 more pigeons crossed the Straits from Michigan to Canada than came to the State to nest that there was an increase notwithstanding the great killing. We did not have automobiles, good roads, and modern guns so the shooting destroyed comparatively few. Squabbing lasted but four days at the most, and the timber owners were looking after their lands, so there was a big increase in Potter County, Pa. this year.

It has been stated that for a pigeon killed a squab died. In all colonies were many birds not nesting, roosting birds they were called, consisting of both sexes. Old pigeons claimed that if a mate was lost a new one from the roosting took its place. We do know that we killed a pigeon just after it left its nest to give place to its mate. Two days later we were in the same place and there were two birds attending this identical nest—a new mate had appeared. We shot the first bird to see if the pigeoners had told us true.

E. T. Martin, a pigeon dealer and interesting writer on pigeons and outdoor life has written: "It is a well proven fact that the old birds coming in will feed any squab heard crying for food, that in this way they look after one another's young. I may mention that one of the men in my employ this year, at the Shelby nesting, 1876, in one forenoon shot and killed six hen pigeons that came to feed the squab in the same nest."

Mr. Martin puts the last nesting in Michigan in 1880, at which few birds were caught, speaks of the Crooked Creek nestings as 30 miles long, and estimates the shipment in 1878 at 250,000 live birds, and a total of 1,500,000. He estimates a residue of 490,000,000 and that 129,000,000 flew away from Crooked River Swamp in 1878; in 1880 the birds were scattered through Wisconsin, and he estimates the kill at 250,000.

E. H. Moulton, in Outing, 1914, relates: "About 25 years ago on a trip from Ashland to Duluth the Captain of the steamer, Mr. Mackey, said there is no mystery about their disappearance (the pigeons) I saw the end of the great bulk of them, going down the Lake (Superior) late in the Fall. A terrific snow storm and gale come up—the snow was wet and froze when it fell on the steamer. In the midst of it we ran into countless pigeons which were eaten down into the water by the snow filling their plumage, and afterwards the Chippewas dwelling on the North Shore told him they saw windrows of dead pigeons stretching for miles which had been driven ashore." This seems to be very definite information as to the loss of most if not all of one colony. The date is not given but it must have been after 1878. But there was always more than ONE Colony until after 1880 at least, which year they nested in Michigan and Pennsylvania, The birds had never been in a single Colony, probably on account of the food supply. There are, I think, two other instances of pigeons drowning in the lakes during storms, earlier.

Chief Pokagon says the Last pigeon nesting was in Benzie County, Michigan, in 1880. Several other writers fix the same year as last nesting. William Brewster writes the last pigeon nesting was in Grand Traverse Co., (County adjoining Benzie on the East) as in 1881. McNamie says 1881 in Northern Peninsula. McNamie tells it as he remembers it. There is no doubt there was a nesting in 1880. If there was a nesting
in 1881 many writers on the pigeons are wrong. We believe 1880 is correct, as to Michigan.

W. H. Merritt, one of the pioneers, of Wolverine, writes us that in 1880 he was acting as woodsman for a Railroad surveying party between Gaylord and Mackinac, passing through a pigeon nesting in Cheboygan and Otsego Counties. "All the pigeon trappers said there were at least one-half more birds there than ever before, and I saw so many of them. I was traveling over a strip of country 70 miles long, in which there were probably ten nestings. They moved north across the Straits. I was at the Straits when they were crossing. There was a rope of birds in the sky so far you could see both ways. That was the last flight of birds as far as I have been able to learn."

We have never known of pigeons nesting in any but even numbered years, and we have seen but very few reports to the contrary. Trusting to memory for dates we have found very inaccurate. We have been told of several nestings in this section of Pennsylvania in odd numbered years, and in every case it was a mistake. We do know from items written at the time and by ourselves that the pigeons nested in Potter county in 1868, 1870, 1876, 1878, 1880, 1882, 1884 and 1886. Was in all these nesting except 1884 and 1886, was in two nesting prior to 1868 and one nesting in McLean County, the dates of which I am unable to fix positively. The Beech trees did not bear nuts every year, so there was a lack of food some years. Did the birds nest in the Northern States every year? We have seen nothing to indicate that they did. The birds were credited with going to Canada in the summer. There was never any great number compared with the spring flight seen in this section returning in the fall, and we have seen but little of such flights in farther West reports.

In 1882, we had a good nesting on the West Branch in Potter County, Pa. but the catch was not very large. An estimate made at the time was from 75,000 to 100,000 all told, including dead birds, squabs and about 25,000 live birds shipped for trap shooting. Dead birds brought from 75c to $1.25 per dozen, very few squabs were shipped, most of them being taken by residents for home consumption. Live birds brought a higher price. The Anti Nesting Law had been repealed.

In 1884, there was a heavy flight over Couderport going East, lasting but one day. Later near Cherry Springs a small flock of about 300 birds nested and were undisturbed. In fact, this little nesting was not known to more than half a dozen persons.

In all the nestings in Potter County there was an increase when the birds left — more birds than came in, in spite of the netting, shooting and squabbing, this owing to difficulty in getting to market and thinly settled condition of the country.

In March, 1886, there was a heavy flight of pigeons. For two or three weeks the woods in the South-Eastern part of the county was full of them. They were in McLean county for a short time and a ten mile nesting was reported on Potato and Marvin Creeks, later they returned to Potter County and started nesting on the head of Kettle Creek and the Cross Fork, but before completing their nests, one night they all left going in a North Easterly direction towards Canada. It was reported that gunners had much to do with the breaking up of this nesting.

After these birds left there was a new flight from the West lasting two days, going Northeast. This was in April. This was the last of the pigeons in any quantity seen in Potter County. It was the end of the Passenger Pigeons. Where from time immemorial they had gathered in colonies of millions to rear their young, they were to be seen no more
forever. This two days flight was the remnant wending their way to Canada never to return. What a tragedy.

John C. French, in his book, "The Passenger Pigeon in Pennsylvania," says: "Mr. Oscar Huff of White Deer, Pa., says that they had a nesting from May, to late in June, 1886, near Blossburg on the Drake Cummings & Company timber lands. Thousands of squabs were killed in the little trees with poles, during bark peeling time of that year."

In 1880 there were millions of pigeons. In 1882 still millions left nesting in Potter County, Pa., and as late as 1886 still one large and one small colony left. To-day and for many years not a single live specimen. What became of them? Martha, the last known live Passenger Pigeon, in the world, died in the Cincinnati Zoological Garden, August 29, 1914, at the age of 29 years.

We have heretofore given the evidence as to drowning and the destruction by man, used to account for the extinction of the pigeon, and in our opinion they are not at all satisfactory. In Potter County in 1880, the catch was light; few caught in Michigan. In 1882 birds were nesting in large numbers and there were many hundreds of thousands if not millions, and a very few scattering birds were seen for nearly ten years, but no nestings, no flocks of hundreds after the 1886 flight in Potter County. The last pigeons we saw was five or six birds watering on the East Fork, about 1895. We were fishing and had set down to rest before they appeared, not over thirty feet away. A year later we saw a pair on the Nine Mile when returning from a fishing trip. These two were in the road and flew into a tree within three rods of us.

We believe the birds perished from some infectious disease which may have been working among them for some years spreading gradually from one Colony to another, and the 1886 colony may have been the last, dying in the wilds of Canada. We wrote to Wm. T. Hornaday, Director of the New York Zoological Park, in regard to the disease theory, and from Lee S. Crandall, the Curator of Birds, received the following:

"I have heard before of the theory of the birds dying from some communicable disease but yours is the first good evidence I have seen of it. It is quite possible that such a disease may have had its effect but I am inclined to accept the theory of most ornithologists—that the passenger pigeon, being accustomed to breeding in large colonies, which suffered a tremendous loss yearly in young and eggs, was unable to continue when its numbers were reduced by shooting and trapping. It is a curious biological fact that birds and animals, which had breeding habits similar to those of the passenger pigeon, have reached or approached extinction when their numbers were appreciably reduced. The few remaining members of the colonies seem unable to hold their own. There are instances of a few pairs of passenger pigeons returning to old nesting sites but, though unmolested, invariably gradually disappeared." (At the time we wrote we had but one authentic instance of Canker in wild birds.)

It is a well known fact that animals and birds have their raise and fall as to numbers periodically. Many years ago in one of the New England States grouse were nearly extinct, only a few survived. Afterwards they became plentiful. One of our hunters says the snowshoe rabbit has a period of seven years. Some years ago Potter County was overrun with rabbits, so much so that the Game Commission of the State employed Ed Coyle of Coudersport to take them alive and ship them to counties where they were scarce. He shipped 240 "Cottontails", mostly caught in the borough limits. Next year they were very scarce in this section, and Ed was blamed for the scarcity. As a matter of fact
they were just as scarce all over the Country as in the section where they were trapped the year before. They have become very plentiful again, but several hunters report killing diseased rabbits this past season, and next year we look for a scarcity again.

Five or six years ago there was an unusual supply of grouse in Potter County and the following spring they were plentiful, having wintered well. In two years it was deemed necessary to have a closed season for a year to conserve them. The winter before numbers were found dead in the woods, in one case five under one tree, the other cases one at a time. None of those finding the birds thought enough about it to have them examined by competent skill to determine cause of death, any further than to satisfy themselves that the birds had not been shot.

In talking this matter over with Harry VanCleve, for many years Game Warden for the State, now in charge of the Hull Game Preserve on the East Fork, he stated that he found a number of dead birds that year. They were nothing but skin, bones and feathers, nothing in their crops, and examination showed a whitish growth in their mouths and throat completely closing the throat. The birds had died of starvation because they could not swallow food. This information was given us February, 1921.

Canker and Diphtheria are among the ills tame pigeons are subject to, generally brought on by poor sanitation, poor food or contaminated ground.

In 1878, Edward T. Martin relates an experience with 20,000 live wild birds in pens 16 feet square, 1,000 a pen. The birds had cleaned their feathers, were eating well and appeared strong and healthy, had eaten their half-bushel of corn to the pen. An hour later all the pigeons in room No. 1 were dead or dying of canker. In another hour the second and third pens were dying rapidly. Sulphur and alum saved most of the rest. He adds, "could such an epidemic have broken out among the wild birds? But if so what became of the dead? There seems to be no sure answer to the question 'What became of the Pigeons?' and at best any reply would be guess work.

In 1914, an article appeared in Hunter-Trader-Trapper relating that an old trapper by the name of McNamie in 1881, passing from Emerson to the upper waters of Tahquenow River, Michigan, through a pigeon nesting found the ground for several miles littered with dead pigeons, and overhead the birds were nodding their heads and fluttering in a sickly manner, continually dropping to the ground where they gasped for a few minutes and lay still, dead. This article seemed to confirm our own belief in what we had claimed for years that the pigeons must have been exterminated by disease and we wrote many letters to Michigan again seeking confirmation.

One of these letters fell into the hands of W. H. Merritt of Wolverine, the man who had furnished the foundation for the story, he receiving it from McNamie and passing it on to Helmuth Bay, the writer of the article. Mr. Merritt wrote us a very interesting letter on the question of pigeons and related the supposition that a camp tender named Crazy Joe had possibly found a couple of barrels of rotten beef in a lumber camp and had poisoned the same for killing bear, that the pigeons are crazy for salt and had fed on the poisoned salt beef, this causing their death. McNamiey is living at Emerson, but we have been unable to get a reply to our letter from him. If the dead pigeons numbered up into the millions, or even hundreds of thousands, the poison theory would not account for all of them—we doubt if it would account for 50,000, and we also doubt if they got a good doze of
poison they would in any great numbers get many miles away. We poisoned Coyotes in Kansas many years ago, and we never had one get ten yards away from the bit of poisoned suet. Mr. Merritt also doubts the date 1881, it was probably in 1880. The pigeons nested in other parts of the State in 1880, we know of no writer that claims there was a nesting in Michigan after 1880. They nested in Michigan in the even years, the beech trees bearing nuts in the odd numbered years—every other year—and the pigeons getting the nuts the next year. This story is not satisfactory as to our theory and we have to fall back on a few facts nearer home.

Frank Howland, now and for the past five years, County Clerk of Potter County, tells us that in 1880 or 1882, he is not certain about the year, (pigeons nested in Potter County, both years) he obtained less than a dozen squabs with the idea of keeping them for netting purposes when the birds came again. When birds first nested there was a great demand for stoolers and fliers from amateur netters and they were worth about five dollars each, the regular pigeoners always had a supply for their own use kept over, and after a day or two of netting live birds untrained old for a little more than dead ones. Frank was young then and had visions of comparative wealth, for a boy, from the sale of his birds, a vision that never materialized. He noticed when he obtained the squabs there was a whitish growth at the corners of and in their mouths. He built a nice pen and coop with water from the spring running through it, followed the advice of pigeoners in taking care of them, but while they seemed to be doing well for a few days they were never well, and in a very short time all were dead except one. The last one, a female recovered and lived for several months becoming quite tame, but finally died. This seems to have been a very clear case of canker. Mr. Howland also tells us that he had talked with Eldred Woodcock, one of the best woodsmen and trappers in this section, now dead, and he had told of seeing wild pigeons with a "mouth disease." same as Mr. Howland's squabs, but had given it no name and had not connected it especially with the disappearance of the pigeons.

Milo Lyman, one of the most prominent business men of Roulette Township, this county, writes us: In 1880, I hunted pigeons with a friend on the Portage. It was during one of the last nestings in McKean County. We killed about 75 birds. When I brought my birds home, my Mother, in preparing them for cooking found them very poor and not plump as pigeons usually were, lumps in their mouths and throats partially filled with a yellowish-white growth, some so near full that it must have been difficult for them to swallow food. They were unfit for human food and were thrown away. Two years later, in Northern Michigan, I found a few pigeons in pairs only, nesting in swamps and I killed some of them. On examination found most of them in about the same condition as those previously killed in Pennsylvania—very poor and suffering from. I now believe, Canker. Birds were few and scattering. I believe that these birds with their young all died then and there. I have never seen any pigeons since. Mr. Lyman writes that the first he remembers of the pigeons was in 1854, when a very small boy, a large flock of them came down to his Father's barnyard, from a brokenu up nesting, many of them dying there, they were so starved.

Leroy Lyman, father of Milo Lyman, was one of the greatest hunters in Northern Pennsylvania, a geologist of considerable note, and one of the prominent men of Potter County. He died in 1880. He always kept a voluminous diary and from his diaries Milo has given us much information including the fol-
About the middle of April, 1854, the pigeons commenced nesting west of Coudersport, snow all gone. Soon after came high winds and for several days around zero weather, with snow several inches deep, breaking up the nesting and thousands of birds freezing to death. By May 20, the surviving birds were nesting again. June 20th, Mr. Leroy Lyman visited the nesting and "found thousands of birds sick, dying and dead from some throat disease." At the same time there were nestings in McKean County. In 1870 there were nestings in Potter, McKean and Elk counties, about forty miles in length. They commenced nestings in McKean County. In 1870 middle of April, twenty-sixth of April eggs laid, May 3rd and May 9th additions were made to the nestings by birds from the West. On May 26th, Milo Lyman went to the nestings and found where on a previous visit birds appeared healthy now were suffering with contagion of throat disease.

Mr. Lyman believes that in 1854 there were double the birds that appeared at any time later, and not more than one to one hundred of them in Pennsylvania later as compared with 1830, "according to what my grandparents have told me."

We ourselves have been in nestings many times and always found lots of dead birds—never examined any of them. If we thought about it at all would have laid it to the wounded birds dying, and the natural death rate among so many birds.

After 1878, comparatively few birds were trapped and sent to market, and thereafter there were no such large nestings as before. But in 1880 there were nestings in Michigan and Pennsylvania in which there must have been under ordinary conditions a material increase in the number of pigeons. In 1882 there was a good nesting in Potter County, Pa., (we know of no other nesting this year) in which there was less than 100,000 killed. There should have been quite a large increase from this colony. In 1886 there was a still larger number of birds in Potter County, failing to nest, flew away towards Canada. In 1880 there were several colonies, in 1886, two so far as we know—the birds which left the Eastern part of this county and the two day's flight from the West following them. This year there was a small nesting reported in Bradford County.

The two or three drownings could only have affected that number of colonies, and it is pretty certain that only one of these occurred after 1878. Even if 50,000 were drown while it would make a big showing on the beach, but not much of a showing in even a single colony of birds. The opinion of the ornithologists that they had become so depleted that they could not nest as was their custom and gradually died out in probably true, as to the last phase of the birds, but there were pigeons enough in 1886 to make two pretty fair sized nestings of hundreds of thousands of birds each. They did not nest after that neither were any great numbers seen. True for many years there were reports of "large flocks of pigeons," but very rarely was the number estimated as 100, oftener a dozen to twenty, not a handfull to the old flocks say nothing of flights. It seems to us and we fully beleive that the birds after 1878 became fewer from some other cause than the ruthlessness of man, drowning or lack of numbers to nest according to their custom. Too many of them dropped out of sight after 1880 and 1886. The pigeon was a long lived bird—twenty to thirty years, perhaps more, and had there been no increase from young should not have passed out so suddenly. There was no trapping or killing to speak of after 1880 in the west and in 1882 in Potter County, Pennsylvania.

It is a well known fact that tame pigeons contracted Canker, why not the wild ones, although their eu-
viroment would make them much less susceptible to the disease, Moulton tells of a thousand dying in an hour, confined in pens. This must have been a very unusually virulent form. Milo Lyman's story, and Leroy Lyman's diary shows the pigeons in Pennsylvania had contracted the disease, and Frank Howland's experience is proof that it was prevalent more or less some years later. Once started may it not have been spread gradually from contact or otherwise until it destroyed the hosts.

The last flight was to Canadian wilds of vast extent, few inhabitants or travelers we believe the bulk of the birds perished without attracting the attention of the world outside. In this day it could not happen for had any one found any unusual number of dead birds or animals some newspaper reporter would learn of it and spread the story broadcast--but not liable to happen in the '80s. The world was not then so well scoured for news. Dr. Ashcraft, of Coudersport has written his theory "that some germ disease had by contamination of feeding grounds or otherwise wiped out the passenger pigeon," but the Doctor gives no instances of the contagious disease existing in the wild pigeons.

In preparing the foregoing we have to acknowledge credit to French's Passenger Pigeon in Pennsylvania; W. B. Mershaw, The Passenger Pigeon; Outing; Forest and Stream; Smithsonian Institution Report, in addition to credits in the body of the article, also to Vesta Thompson VanDeBoe who rendered much valuable aid in hunting up old reports that I would probably have missed.

The following was written some two years ago at the request of John C. French of Roulette, author of the best book on pigeons we have seen, "The Passenger Pigeon in Pennsylvania," for the second edition.

PIGEON NOTES

Nests were roughly made, just sticks laid across, no lining of leaves or feathers. Could see up through the nests.

Two eggs was the rule, though some nests contained but one--eggs dropped, or thrown from the nest, and perhaps, at times, the amount of food available may have had something to do with the number of eggs. Some writers say only one egg. Our own experience and observation in a number of nesting was two.

Two or three days time for building nests and laying eggs; period of incubation about two weeks; in two weeks more the squabs leave the nest and in a week all old and young have left the nesting grounds. About six weeks completes the nesting. Only about three days for getting squabs by cutting timber or poking them from the nests. Main body birds left as soon as young were large enough to leave while still in the nests. A few remained to guide the squabs when they were able to leave--about one week.

Old birds did not feed in or near the nesting. This feeding ground was left for the young. Nesting birds fed once each day, cock flight in the morning, hens later. They fed from twenty to sixty miles away. They took turns on the nests. Not all the birds fed in the same place. In different sections of the nesting they fed in different directions, north, south east, or west.

The birds were no benefit to agriculture as they were not insect feeders. In the Fall they destroyed Buckwheat and other grains.

Did the birds nest more than once a year, and did they nest EVERY YEAR, There is evidence that some years they nested (the same birds) two or three times, but not often. We have been unable to find that they nested other than in even numbered years—at least in the North. Every reported nesting we have found that when traced up beyond a reasonable doubt, was in the even numbered years. Personally we never knew of a nesting in an odd numbered year.
The birds wintered in the south where there were immense ROOSTINGS, but we have seen no accounts of their nesting there, that we remember of.

When the beechnuts became sprouted the old birds would scratch up the leaves near the nesting, exposing the nuts and sprouts, preventing growth, and thus furnishing food for the young birds, before they were able to fly sufficiently well to follow the old birds.

My first recollection of Wild Pigeons, clear recollections, carries back over sixty years. I must have seen thousands of them before but they left no clear impression on my mind. The birds were with us nearly every Fall and Spring; sometimes only a few scattering scouts and at other times by the millions, it seemed. I was a very small boy when one morning lower West Street in Coudersport, the gardens, yards, we had not arrived to dignity of lawns as yet, and the commons South, several acres in all, were suddenly covered with pigeons working on the ground. The ground was blue with them. A Mr. Pratt got out his shot gun for the purpose of making a slaughtering, and thinking he could get more by shooting on the wing frightened them to a raise. It seemed as though every bird took wing at the same time, and the noise was like a strong wind blowing. Pratt fired both barrels but never got a bird. Probably shot under. He explained that the birds were nesting somewhere West of here and were "Worming." The idea he conveyed was that at a certain age of the young birds the old ones for a few days fed on worms, or grass roots, or both. I know that several years later when the birds were nesting West of Coudersport it was reported that large numbers of them were covering the flats on Pine Creek, near Manchester, "Worming." I have never seen anything written in regard to "Worming" and only in these two instances heard it mentioned.

Pigeons Feeding

Some years later with a shot gun too heavy by some pounds I started for the top of the hill West of Coudersport. At that time the Pigeons were nesting in McKean County and many birds were scattered through our woods. A little beyond the top of the hill in some large timber, principally beech, I heard the "tweat tweat" of a multitude of birds not yet in sight. I stopped beside an old stump to see what was coming, or rather what was doing, as it was evident the woods in the distance were full of Pigeons. In a very short time the birds appeared in plain sight as the woods were open and the leaves not started. I had never seen the like before and for that matter never happened to see the like again. The birds were coming in a body about twenty rods front and to a depth of five or six rods, the air filled with Pigeons to a depth of five or six feet above the ground, seemingly rolling over and over, and feeding on Beech nuts, and all the time making the "tweat tweat" cry that could have been heard a quarter of a mile or more. I think the cry was only made by the Pigeons in the air. The front line was as straight as the line of a body of well trained soldiers marching, the rear line of birds continually raising, flying over those in front and dropping down a foot or two in advance of the front line on the ground while in between the leaves were flying as the birds uncovered the beech nuts and made their afternoon meal. The birds passed within six feet of me giving me the best possible chance for observation. I do not think I moved enough to wink both eyes at one time from the time they came in sight until I was looking along the last row of them. Long before I had learned that birds and animals while sharp sighted would not notice a perfectly still object. But I wanted Pigeons and as the last were passing I brought up the gun and took a snapshot in the air. The first move
sent the birds up with a great roar of wings, as I expected. I made the shot and I picked up just two birds, one with a single slug in the head and the other "all shot to pieces," so there was nothing of value to carry home, the bird being so close that it received practically the whole charge. Powder and shot were scarce and expensive articles for boys in those days, and owning a gun out of the question with those in my class. A sporting neighbor would occasionally loan me his shot gun and any little change that by luck or chance came my way would buy powder and shot in small quantities. This day I had borrowed the gun, my money was sufficient to procure four or five loads of powder, but no shot. I had taken the lead slug or filling from a worm-out whalebone buggy whip that had been cast away, pounded it out flat until it was about as thick as a B. shot, and with the kitchen butcher knife cut it into square slugs to be used in place of shot. From the Pigeon shot so badly there was nothing left for food I carefully removed quite a number of the slugs for future use, and I used them. I venture to say that many of the "old boys" remember using any old lead they could get hold of as I used the weight in the butt of the old whipstall.

Feeding Pigeons
In 1870 when the large nesting was in Northern Pennsylvania, the professional Pigeoners, those who made it a business to follow the birds from State to State during the nesting season, were much in evidence scattered all along the nesting section. A number were stopping at the Connersport Hotel, and evening the old basement was headquarters. Here the pigeon gossip of the day was in full swing and much pigeon lore could have been gathered had any one been interested enough to take notes. I spent a few evenings watching the care of the birds used in netting. At night all the birds were fed, watered and exercised. A Pigeoner would take a bird from the box or basket, the bird's eyes sewed up, place it upon his knee and with one hand over the bird's shoulders press the beak with thumb and fore finger until its mouth opened, with fingers of the other hand put kernels of corn in its mouth until the crop was filled, then the beak is pushed into a small cup of water and in less time than it takes to write this the feeding and watering is over. About the second feeding the bird is ready to do its part fully. Next the boots are put on, buckskin strings made into slip-knots over the feet, and the bird transferred to fore finger, the strings drawn taut through the hand and the exercise begins. The hand raised slowly and dropped quickly. As the bird drops wings are out-stretched, quickly recovering as the hand stops, and this is repeated a number of times. Every motion is carefully watched and the action of the bird soon determines whether or not it will do for netting purposes. The least wrong motion or misplacing of a wing or feather on recovery condemns the bird as a Stooler. A coming flock of birds seem to be Eagle eyes as to the stool bird, paying little or no attention to Bedders and Flyers. All the birds are fed and exercised. Not one bird in a dozen will make a real good stool bird.

A Michigan Professional says the birds fly about one mile per minute; that he had timed them often. In Michigan the land is laid out in Sections one mile square; as the head of a flock passed the section line a flint of a handkerchief gave notice to another person on the other side of the section who with watch in hand, the time in passing was very accurately taken. A large number of observations fixed the time in passing at one mile per minute. As to birds mating but once: Another professional told that he had seen a male bird killed immediately after giving up the nest to the female, two days lat-
er another male was attending that nest with the original female. This statement of remating was generally accepted by those present, pigeoners, as true. In all nestings there were large numbers of birds not nesting roosting near the nesting, and the Pigeoners claimed that in case of a mated bird being lost another was supplied from those roosting. During the nesting a large number of the nesting birds were netted or killed with guns. If they did not remate what became of the nests as it is simply impossible for a single bird to hatch and rear the young? Only a very small number of abandoned nests, according to my observation, could be found in nesting. I have seen now and then an old bird feeding in the nesting returning to the nest as soon as satisfied, but their number amounted to almost nothing in comparison with the number of mates that had been killed.

One evening when asked what luck, a Pigeoner answered: “Good, a few birds over 100 dozen at one cast of the net,” using a double net, probably. Another said, “I believe I had twice that number under my nets at one time—so many they raised the net and a good share of them escaped.” It had been a good morning for birds and almost all of the netters had had extraordinary good luck. I am told by one who followed netting for a time that from twenty-five to thirty-five dozen in a day was considered pretty fair luck, nearly all caught on the morning flight, few on the return. Birds sold as low as thirty cents per dozen. I have seen both dry and salt beds, about as described in “The Passenger Pigeon in Pennsylvania,” except that I never saw one with grain scattered over and always there were a dozen or more dead birds placed as naturally as possible scattered over the beds, and called bedders. The most I ever saw caught at one time was twenty dozen, on a salt bed, on the head of the Sunken Branch, Potter County, located in small scattering timber, Pigeoner told me had salted it for a week before using. He used stool, fliers and bedders in the morning, and dispensed with them during the return flight when the roosting birds would come down for salt. From half a dozen to two dozen the catches would run then. I have seen three loads of pigeons go out to Wells-ville, on the Erie railroad, in one morning, three thousand to four thousand pounds in each load. A wagon box of spoiled squabs fertilized one garden in Coudersport. Harlow Dingee, with a single barrel gun killed thirteen dozen and one birds in one day in Dingman Run nesting, selling them for one dollar per dozen. Early in the nesting birds were packed without picking. During one nesting, late in the season birds were picked in the old Court House by women and children at five cents per dozen and the feathers, tail, wing feathers and upper part of the neck not pulled. It was a great place for women and gossip, and was enjoyed as a sort of a pic-nick, aside from the pin money earned. The feathers were used for pillows and beds. It was told there that a person could not die on pigeon feathers. One woman said she knew this was so as her aunt was dying for a week, and when at her earnest request they moved her to a goose-feather bed from a pigeon feather bed she only lived an hour.

Netting Outfit

Recently I was shown by Miss Rose Crane, a Coudersport teacher, some of the outfit used by her father in catching pigeons, nets, ropes and stool. The nets are made of linen twine, two of them one and one-half inch mesh, twelve and one-half, feet by twenty-eight feet; the third two inch mesh, fifteen and one-half feet by thirty-five feet. These nets were made by Mr. Crane and the large one last used by him in 1882. The Stool: A standard one and one-half feet in length, iron socket, morticed for steel spring, and shows it was driven in the ground about one foot, hole
in top of standard in which fitted another standard seventeen inches long with pulley on top. Steel spring fastens in mortice, attached to pole in three pieces joined by ferrules, total length of about six feet; attached stool for bird ring made from wire, probably the bail of a pail, six inches in diameter, covered with netted twine, with two holes through the netting for the boots to pass through to fasten the stool bird. a ring near stool for cord passing over the pulley to bough house. Mr. Crane was a carpenter and this stool outfit is a little more elaborate than those in general use. It was made jointed to pack in bag with nets. Usually the stool rod was in one piece, the stool a piece of thin board covered with an old woolen stocking, and instead of passing over a pulley the cord passed through a hole in the standard or over a notch cut in it. Miss Crane describes the box or basket for carrying the birds as a skeleton box, oval top with handle, basket covered with canvas, partition across middle with door in each end, stool birds in one end, fliers in the other. The baskets I saw were about the same, some without partitions, most of them flat top, and other minor differences. These baskets were in size about 30x15x15 inches. For several years Mr. Crane kept a pen of fliers and stoolers against the day of the pigeons return, and while they built nests they never reared any young. Old Tom was the last, living a number of years after the others had died one by one. He became a great pet knowing his name and enjoying being petted as well as any tame Canary.

I have been in a least six different nestings, shot large numbers of birds never netted any, but have seen it done a number of times. I supposed that two eggs to the nest was conceded by all. A few years ago Eldred Wood of Condersport, an old hunter and trapper, and experienced woodsman, published an article claiming that Pigeons laid only one egg to the nest. He ought to have known with his experience. My observations were different. I have seen two eggs fall from a nest in the nesting where the birds quarreled. The only Squabs I ever took from trees was where a small bunch of birds, perhaps two hundred, were nesting in the second growth timber at least a quarter of a mile from the regular nesting, and I got twenty-four squabs from thirteen nests. Naturally, I think the birds laid two eggs to each nest. The nestings I visited were in hardwood timber principally, occasionally a hemlock tree, but these were not as well filled with nests as the hardwood. I do not mean to say that others who have seen nesting under different conditions and in different places have drawn wrong conclusions, or that they have been mistaken in their statements. They state the matter as it appeared to them and I am doing the same.

Most pictures of Passenger Pigeons show them with drooping tail and tip of wings raised slightly above the tail. If I remember correctly the neck was long and slim, tail tight. They were the trimnest and smoothest of birds when at rest. I have in my office a colored print of the last female bird in the Cincinnati Zoo, with a male to match, a copy from a painting. This shows drooping tail and raised tip of wing. It ought to be right, but it differs from my recollection of the wild bird. Perhaps they acted different in captivity. Perhaps my memory is wrong. A dozen or more old settlers seeing this picture call it fine. Some say not exactly right, and after studying the picture a little half of them said: "neck of male not slim enough and wing feathers should lay flat over the base of the tail," and there you are. What became of the Pigeons? It was reported long after their practical extermination that they had drowned in the Gulf of Mexico, the Pacific Ocean, and in the Atlantic—couldn't have happened in all three. The habitat of the Pas-
Passenger Pigeon was north of the Gulf and East of the Great Plains. The Band Tail is a very different bird and still found West of the Mountains. They are gone and there is not satisfactory explanation that I have seen. The flocks had been woefully depleted but the last attempted nesting as reported consisted of a very large number of birds. At that time there was plenty of hardwood and was for years afterward, for the number of birds then existing as the real cutting of beech timber did not commence until many years later.

My first experience in the bough house was with an old Pigeon named Jim, I have forgotten the rest of his name, at his invitation one cold morning in the spring. We arrived at the bed just before daylight and I obeyed orders as to ropes and sticks assisting in setting the net and getting ready. As soon as it was light birds were seen flying, but a long distance away, over half-a-mile Jim said. They had changed their flight from the previous day. After waiting a time Jim said: "The birds are a long way off, but I have two of the very best fliers, and a better bird does not exist than the one on the stool. I will try and call the next flock." Soon a small flock appeared, so far away that it looked hopeless, but up went the fliers and as they gradually settled tugging at the ends of the cords, I was willing to believe they were the best of the best. The stool bird was steadily worked and in a few seconds Jim said, "did you see that? We'll get them sure." I did not see but he later told me he saw the motion of the flock as they noticed the fliers. They circled and shortly came in from back of the bough house with a swish that made me dodge involuntarily. At the psychological second, second or fraction of a second is proper, as it requires experience to know just when to spring the net, for the birds no more than strike the ground before they discover it is no place for them and they are off and the catch is lost. The pull is made while most of the birds are in the air just off the bed—this would not be the case on a salt bed. The rope was pulled and we had about two dozen birds. "There," said Jim, "you have seen as fine working of fliers and stooler, and as pretty a call of distant birds as you will ever see." I pinched heads and I bit heads after the approved manner of Pigeoners, and after seeing a few more called and caught that came nearer felt well paid for a cold and disagreeable walk of about two miles before dawn.

And I saw about the last of that Stool Pigeon's work. A few nights after in the basement of the old Hotel, Jim remarked that he was trying out another bird in place of "Maggie," (the pet name of the bird.)

"Maggie dead?" inquired his neighbor.

"Not that I know of. I hope not," said Jim.

"What is the matter," was the next inquiry.

"Turned her loose," said Jim.

"Well, you are some fool. I offered you ten dollars for Maggie a day or two ago.""Yes," said Jim. "But you could not buy her."

"Well, why didn't you let her go, and why didn't you pinch her head and throw her into the catch, if you had got through with her and wouldn't let anybody else have her? Dead she would have brought just as much in the market as any of your catch." Jim waited a minute and then replied: "I have had Maggie three years and she has always done good work. Best bird I ever saw. But lately she has seemed to fail, not so lively as heretofore, did not eat so well, seemed to get tired, but never refused to work. If I had her home where I could put her in the coop and take care of her I would have done so. I have no way of taking care of her here—no coop to put her in and it may be months before I re-
turn home. If turned out she may come out all right. I never kill a
bird that does good work for me but
turn them loose, and surely Maggie
has earned her freedom. The birds
I caught with her netted me over a
thousand dollars in three months,
one season. Early this morning I
put her out on the ground near the
net. She walked around a bit, fluttered her wings, picked up some
corn I had scattered for her and a
few beech nuts I had found under a
tree so she will know enough to feed
in the woods, pecked at the dirt, then
flew into a tree just beyond the
bough house and dressed her feathers. She was around for almost an
hour, finally flying away with a
small bunch of birds I failed to call
to the net. I sincerely hope she will
escape the hunters and netters, and
live as long as nature allows a pigeon
to live."
There is a difference in men, and
a difference in Pigeoners.