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CONTENTS.

	Page.
Regular Meeting, Monday, January 19, 1880,	1
D. B. Hagar, lecture on Spelling Reform, notice of, 1. Remarks by Prof. E. S. Morse, 3. Explanation of Wilson's Ozone Generator and Diffuser, by James Kimball, 3.	
Regular Meeting, Monday, February 16, 1880,	3
Regular Meeting, Monday, March 1, 1880,	4
F. W. Putnam, lecture on the former Indians of Southern California, as bearing on the origin of the Red Man in America, notice of, 4.	
Meeting, Friday, March 11, 1880,	6
Rev. Robert Collyer, lecture on an Episode in the life of Edward Fairfax, notice of, 6.	
Regular Meeting, Monday, March 15, 1880,	9
Thomas H. Walker, lecture on the Philosophy and Theory of Punishment, notice of, 9.	
A List of the Birds of the Hudson Highlands, with annotations; by Edgar A. Mearns (<i>continued</i>),	11
Regular Meeting, Monday, April 5, 1880,	26
Remarks of Prof. Edward S. Morse on the persistence of Korean Art in Japanese pottery, 26.	
Regular Meeting, Monday, April 19, 1880,	26
Nathan Crosby, lecture on Essex County and Essex County Men, notice of, 27.	
Regular Meeting, Monday, May 3, 1880,	27
Annual Meeting, Monday, May 17, 1880,	28
Election of Officers, 28; Remarks by F. W. Putnam, 29; Retrospect of the Year, 30; Members, 30; Field Meetings, 32; Excursions, 33; Lectures, 33; Meetings, 35; Concerts, 35; Library, 35; Horticultural Exhibition, 47; Art Exhibitions, 48; Museum, 52; Publications, 53; Manuscripts, 53; Financial, 53.	
Meeting, Monday, May 24, 1880,	56
An Informal Talk on Sundry Architectural and Art Topics, by Edward A. Silsbee,	56
Notice of the late Rev. Jones Very,	74

Regular Meeting, Monday, June 21, 1880,	76
Remarks on the death of Mr. Caleb Cooke, by the President, 76, Rev. E. B. Willson, Mr. John Robinson, 78, Dr. Geo. A. Perkins, 79, Mr. T. F. Hunt, 80; Resolutions, 80.	
Notes on the Flora of Essex County, Mass., with Sketches of the early Botanists, and a list of the Publications on these subjects, by John Robinson,	81
Field Meeting at the Willows, Salem Neck, Tuesday, June 22, 1880,	98
Arrival of John Winthrop, two hundred and fiftieth anniversary of, 98.	
A List of the Birds of the Hudson Highlands, with annotations; by Edgar A. Mearns (<i>continued</i>),	109
Regular Meeting, July 5, 1880,	129
Regular Meeting, July 19, 1880,	129
Field Meeting at Bradford, Friday, July 30, 1880,	130
Bradford Academy, 130; Hannah Duston Monument in Haverhill, 132; Haverhill Public Library, 133; Afternoon Session, 134; Remarks of Dr. George Cogswell, 135, Rev. Mr. Kingsbury, Prof. E. S. Morse, J. D. Tewksbury, Prof. Hall, Mr. Fish, John W. Perkins, Mr. Emery, John Robinson, 136.	
Field Meeting at Lowell Island, Thursday, Aug. 12, 1880,	137
Sketch of Lowell Island, 137; Afternoon Session, 165; Remarks by the President, 165, Rev. Sereno D. Gammell, 166, Mr. H. Saxe, 167, Dr. George A. Perkins, 168, Prof. E. S. Morse, 169, Rev. Joseph Banvard, 170, Mr. N. A. Horton, 170.	
The gradual dispersion of certain Mollusks in New England, by Edward S. Morse,	171
Excursion to New Castle, N. H., Friday and Saturday, September 10 and 11, 1880,	177
Evening Session, 177; Remarks by the President, 177; Account of the Pueblo Indians of New Mexico and Arizona, by F. W. Putnam, 178; the Homestead of Gov. Benning Wentworth, 184.	

BULLETIN

OF THE

ESSEX INSTITUTE.

VOL. 12. SALEM, JANUARY-JUNE, 1880. Nos. 1-6.

REGULAR MEETING, MONDAY, JAN'Y 19, 1880.

MEETING this evening. PRESIDENT in the chair. Records read. Donations and correspondence announced.

Mrs. Margaret Braden and Arthur West, both of Salem, were elected resident members.

Vice President, D. B. HAGAR, read a paper on "*Spelling Reform.*" He commenced by saying that it was too late for sensible men to laugh at the spelling reform. He named a large number of eminent scholars in England and in America who are its advocates, and designated prominent educational bodies who have officially favored its consideration. He alluded to several well known leading newspapers as having adopted some of the proposed new spelling, mentioning the *Chicago Tribune*, the *Utica Herald*, the *N. Y. Independent*, the *Journal of Education* and the *Home Journal*, and stated what had been done by educational associations in behalf of the reform. The following propositions were then advocated :

- (1) That spoken language necessarily precedes written

language. (2) That the grand purpose of written language is to represent to the eye the spoken language, as heard by the ear. (3) That the written language should be so constructed that the transition from the spoken to the written, and, conversely, from the written to the spoken, should be simple, uniform, and truthful. (4) That, to this end, a phonetic system is the most direct, easy, and rational. (5) That in devising a written language for a people hitherto without one, no sensible scholar would, at the present day, think of framing it on any principle other than the phonetic. (6) That the present orthography of the English language is so lawless, so perplexing, so confounding to all rational expectation, that the learner is compelled, from first to last, to guess at the pronunciation of every new word he sees; that he cannot be certain of correctness until assured by his teachers, and possibly not even then.

Under this last point, numerous illustrations of irregularity and inconsistency in English spelling were given. It was shown that the present orthography of the English language employs sixty-two signs, which have at least one hundred and fifty-nine uses; whereas a pure phonetic system would, therefore, save a vast amount of time in learning to read and spell.

Mr. Hagar then proceeded to answer the objections usually urged against a reform of English orthography, endeavoring to show that they were of little importance.

The paper closed by answering the question, What can be done toward accomplishing the desired reform? Something could be done in the following ways: (1) By the general discussion of the subject among teachers and other friends of education. (2) By establishing spelling-reform associations throughout the country. (3) By concert of action among State and County educational

associations. (4) By procuring the appointment of National and State Commissions to consider and report on the subject. (5) By personally adopting in our correspondence the spellings recommended by the American Philological Association. (6) By freely using the public press toward setting before the public the objects and merits of the proposed reform. (7) *By teaching the children in the public schools to read from a phonetic text.* (8) By cherishing the pluck and aggressiveness of earnest reformers.

Prof. E. S. MORSE spoke of the Japanese language, showing that students there had to surmount even greater obstacles than obtain in the present English system.

Mr. JAMES KIMBALL exhibited and explained Wilson's Ozone Generator and Diffuser. This apparatus is intended to be used in destroying the impurities in the air of close and poorly ventilated rooms, also the noxious emanations produced by the decomposition of animal and vegetable substances. It is a machine holding six small cups partly filled with water, a stick of prepared phosphorus being placed in each cup. Upon the ignition of the phosphorus a cover of porous porcelain is placed over the cups and the apparatus is prepared to do its work.



REGULAR MEETING, MONDAY, FEBRUARY 16, 1880.

PRESIDENT in the chair. Records read. Donations and correspondence announced.

At an adjournment on Tuesday, Feb. 17, Charles Toppan, of Salem, was elected a member.

The Secretary read a communication from the American Academy of Arts and Sciences, inviting the Essex Institute to select one or more delegates to attend the celebration of its 100th anniversary, to be held in Boston on the 26th of May, 1880.

On motion of Mr. F. W. Putnam, the selection of delegates was referred to a committee, consisting of the President and Secretary.

A similar invitation was read from the Minnesota Historical Society, which will celebrate the 200th anniversary of the discovery of the Falls of St. Anthony, on the 3rd day of July, 1880, to send a representative on that occasion. The subject was referred to the same committee with power to act.



REGULAR MEETING, MONDAY, MARCH 1, 1880.

MEETING this evening. The PRESIDENT in the chair. Records read. Donations and correspondence announced.

Vice President F. W. PUTNAM made a communication of peculiar interest, but of which only a brief abstract of some portions is here given. His subject was "The former Indians of Southern California, as bearing on the origin of the Red Man in America."

After giving an account of the discovery of the Peninsula of California, in 1534, by an expedition fitted out by Cortés, he gave an historical résumé of the military expeditions to Upper California, the establishment of the missions by the Jesuits and Franciscans, and of their degrading influence on the Indians.

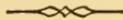
He then called attention to the facts relating to the antiquity of man on the Pacific coast, and to the importance

of the discovery in California of human remains and of the works of man under beds of volcanic material, where they were associated with the remains of extinct post-pliocene animals, and to the necessity of looking to this early race for much that it seems otherwise impossible to account. He thought that what is called the "Eskimo element," in the physical characters and arts of the southern Californians, was very likely due to the impress from a primitive American stock, which is probably to be found now in its purest continuation in the Inuit. In this connection he dwelt upon the probability of more than one type of man. In following out this argument, he called attention to the distinctive characters in different tribes of Indians on the Pacific coast, and stated his belief that they had resulted from an admixture of the descendants of different stocks. The Californians of three hundred years ago, he thought, were the result of development by contact of tribe with tribe through an immense period of time, and that the primitive race of America, which was as likely autochthonous and of pliocene age, as of Asiatic origin, had stamped its impress on the people of California. The early races of America he believed were dolichocephali, and the short-headed people he thought were made up of a succession of intrusive tribes in a higher stage of development, which in time overran the greater part of both North and South America, conquering and absorbing the long-headed people, or driving them to the least desirable parts of the continent. He thought that the evidence was conclusive that California had been the meeting ground of many distinct tribes of the widely spread Mongoloid stock; for in no other way could he account for the remarkable commingling of customs, arts and languages, and the formation of the large number of petty tribes

that existed in both Upper and Lower California when first known to the Spaniards.

The speaker then gave a review of the arts of the Californians and the physical characters and customs of the people, showing that, notwithstanding the absence of pottery, the tribes, when first known, had passed through the several stages of savagery and had reached the lower status of barbarism, as defined by Mr. L. H. Morgan in his "Ethnical periods."

Mr. Putnam concluded by calling attention to the recent explorations of the coast of southern California and the adjacent islands, by the expedition under Lieut. Geo. M. Wheeler of the U. S. Engineers, in charge of the Survey West of the 100th Meridian, and the extended explorations of the Santa Barbara Islands which had been conducted by the Peabody Museum of Archæology at Cambridge. The results of these explorations, he stated, were now embodied in the seventh volume of the Reports of the Survey under the charge of Lieut. Wheeler, and published, by authority of Congress, under the direction of the Chief of Engineers, U. S. A.



FRIDAY, MARCH 11, 1880.

MEETING this evening. The PRESIDENT in the chair.

Rev. ROBERT COLLYER, of New York, read an interesting paper entitled "An Episode in the life of Edward Fairfax."

The PRESIDENT, before introducing the lecturer of the evening, briefly alluded to William Fairfax, a lineal de-

scendant of Thomas, the first Lord Fairfax, who was an elder brother of Edward, an episode in whose life is the subject of the paper under consideration. William Fairfax was the son of Hon. Henry Fairfax, sheriff of Yorkshire, who was the son of Henry, the fourth Lord Fairfax. Having received the appointment of collector of the port of Salem, he came to Salem in 1725 from the Bahamas, where he had married Sarah, daughter of Major Walker, and was appointed Chief Justice of the Island. His wife died in Salem in 1731, and subsequently he married Deborah, daughter of Francis and Deborah (Gedney) Clarke. In 1734 he accepted an offer from his cousin Thomas, the sixth Lord Fairfax, to be the superintendent of the estates in Virginia, which he had inherited from his mother, who was a daughter of Lord Culpepper. He then removed thither and took up his residence first in Westmoreland County, but subsequently removed to a plantation called Belvoir, near Alexandria.

During his residence in Salem he occupied the house which was taken down some eight years since, on the western corner of Essex and Cambridge streets, for the erection on the site of a more eligible mansion. The house was then owned by Philip English, or his daughter Susannah Touzel.

For a more extended notice of the Clarke Family and its connection with the Fairfax, the reader is referred to a notice of the Clarke and Gedney families, prepared by H. F. Waters, and printed in the Historical Collections of the Essex Institute, Vol. XVI, part 4.

Mr. COLLYER gave at first a very graphic account of the ancient seat of the Fairfax family at Denton Park in Yorkshire. He spoke of several of the members of the family, particularly Thomas, the third Lord Fairfax,

who was the great General of the Parliament Army, 1645 to 1650—born in Denton, 17 Jan'y, 1611–12, died at Belburgh, near York, 12 Nov., 1671, and Thomas the sixth Lord Fairfax who resided for many years on his estates in Virginia and was the intimate friend and patron of Washington and who died at Greenway Court near Winchester, Va., in 1781, aged ninety-one years.

Edward Fairfax, the poet, born at Denton, Yorkshire, and died in the Parish of Fewston about 1631. The consideration of his writings was the leading and principal topic discussed in this communication. He seems to have preferred a life of study and retirement to that of military service in which his brothers and other members of the family were distinguished. Having married he lived at Fewston and there spent his time in literary pursuits. His best known production is a translation of Tasso's poem of "Jerusalem Delivered," which appeared in 1600 and was received with enthusiastic and continued approbation. Its popularity has revived in the present century and several editions have appeared in England and the United States. His work on demonology entitled "A Discourse of Witchcraft, as it was acted in the family of Mr. Edward Fairfax of Fewston, in the county of York, in the year 1621," was particularly noticed and fully explained, giving a very interesting and instructive sketch of the condition of witchcraft at that period.

Edward Fairfax was a firm believer in witchcraft. He imagined that some of his children had been bewitched; and he had some of the witches brought to trial, though without obtaining a conviction. He, however, only shared in the common superstitions of the age and was settled in the conscience of having the sure ground of God's word to warrant all he believed, and the commendable ordinances of the English church to approve all he practised.

REGULAR MEETING, MONDAY, MARCH 15, 1880.

REGULAR MEETING this evening. PRESIDENT in the chair. Records read. Correspondence and donations announced.

HON. THOMAS H. WALKER of Pottsville, Penn., read an interesting paper on "The Philosophy and Theory of Punishment." To this subject he had given much time, wide research and serious reflection. He began by alluding to the lax system of prison discipline which prevailed in Europe a century ago, when the jails were nothing but moral pest-houses, where drunkenness and prostitution were the pastime of the inmates; where the innocent and guilty were huddled together in common quarters. At this time Howard, the great apostle of prison reform, came upon the scene of action in England. He visited most of the prisons in Europe and presented such a startling array of facts in reference to prison life, that he was summoned before Parliament and examined with great particularity in regard to his investigations.

The result was the appointment of a Parliamentary commission and the establishment of the true theory of prison discipline, the reformation of the criminal and the protection of society. Human nature was the same inside the prison as outside, actuated by the same motives and resentments. The criminal should, therefore, when practicable, be sentenced to solitary confinement at labor:—solitary confinement in order that he may have opportunity to repent of the enormity of his crimes and his responsibility to the State, and that any good impressions which may be created shall not be dispelled by the scoffs and frivolity of the hardened criminals; and labor, as well as solitude, that he may be taught the value of industry, and learn to appreciate the blessing of the

sentence pronounced upon man "In the sweat of thy brow shalt thou eat thy bread." Brief terms of improvement as a rule were advocated, especially in the case of the young, and at this point the very groundwork of the whole system was reached. The intellectual and moral education of the young was the most effective method of reform. Crime was hereditary like any other disease; our penitentiaries and jails are crowded with the ignorant and depraved, and it would be good economy for the state to gather up the homeless and fatherless children in our large cities, and endeavor to make good men and women of them. There has been a great advance in providing for the physical comfort and treatment of the inmates of our prisons. The sick are cared for in well-lighted and cheery infirmaries. The insane criminals are no longer confined in dungeons and fettered with chains, but are sent to asylums for appropriate treatment. But we need go a step farther; crime is a mental disease and needs a careful diagnosis for its successful eradication, and our system of prison discipline has much to learn in this respect.

The lecturer closed with an eloquent tribute to the memory of Howard, to whom the world owes so much for the alleviation of prison discipline.

At the adjournment on Tuesday, March 16, Mrs. Jerome Carter and Miss L. F. Tyler, both of Salem, were elected members.

Votes of thanks were passed to Rev. Robert Collyer, of New York, for his interesting paper "An Episode in the life of Edward Fairfax," and to Hon. Thomas H. Walker, of Pottsville, Penn., for his valuable paper on "Prison Discipline."

*A List of the Birds of the Hudson Highlands, with
Annotations.*

BY EDGAR A. MEARNS.

[Continued from page 204, Vol. XI.]

72. *Ægiothus linaria* (Linné). RED-POLL LINNET; LESSER RED-POLL. An occasional winter visitant; sometimes very abundant.

In 1874, the Lesser Red-polls appeared in flocks about the first of December, and were very abundant until April. For some time after their first appearance, very few adults were seen, nearly all being young birds; but soon old males with rosy breasts and ruby crowns began to come in immense flights, till the swamps of birch-trees which they inhabited, and upon whose seeds they fed, were absolutely swarming with them. So great were their numbers that the supply of birch seeds soon gave out, and then they scattered over the entire region, feeding largely upon seeds of the alder, and of various weeds. During the month of March, the Red-polls far exceeded in numbers the aggregate of any single species that I have ever seen. They were very tame, feeding close to the roadsides and in yards about houses; and, go where one would, they were always found in abundance. They were in full song during the last month of their stay, and the males were in particularly handsome plumage. Their notes resemble those of the American Goldfinch (*Chrysomitris tristis*); but their flight is swifter, and less undulating. They are easily domesticated, and make nice pets.

Mr. William C. Osborn shot a female, on November 9, 1878, near Garrisons; it was feeding in company with the Tit-lark (*Anthus ludovicianus*), in a weedy field near the Indian Brook.

I saw a single Red-poll in a birch-tree in the Central Park, N. Y., on December 20, 1878. During the last week in December and the first day of January (1878-79), they were quite numerous all through the Highlands. Nearly all of the specimens shot were young males, though one or two adult males and females were secured. Dr. Fisher, on the other hand, found only females, at the same time, at Sing Sing, N. Y. On February 8, 1879, Dr. Clinton L. Bagg found a number of Red-polls in some weedy fields on Ward's Island, N. Y.

Dimensions.—Average measurements of fifty-seven specimens:—length, 5·32; stretch, 8·68; wing, 2·80; tail, 2·32; culmen, ·36; tarsus, ·56; middle toe, ·36; its claw, ·23.

73. *Chrysomitris pinus* (Wilson). PINE GOLDFINCH; PINE LINNET. An occasional winter visitant; sometimes a winter resident, and abundant.

In 1874 the Pine Linnets were found in the hemlocks, feeding upon the cones, as early as October 16. They were frequently met with throughout the winter in large flocks in the alder swamps, accompanying flocks of Red-poll Linnets. Since then I have only seen them on two occasions: in Lewis County, N. Y., January 1, 1878; and on February 6 (same year), when they were numerous at Fort Montgomery (four miles south of Highland Falls), associating and feeding with large flocks of Yellowbirds (*Chrysomitris tristis*) upon the cones of the hemlock.

A specimen was taken by Mr. Frederic S. Osborn at Garrisons, October 17, 1874; and Mr. William C. Osborn took specimens there on November 16, 1878. Mr. Theodore Roosevelt took it August 27, 1874, in Franklin County, N. Y.¹

Dr. C. Hart Merriam's notice of the "Breeding of the Pine Linnet in Northern New York," published in the "Forest and Stream and Rod and Gun" (Vol. X, No. 24, p. 463, July 18, 1878), is so interesting that I cannot forbear transcribing it entire: "Few birds are more erratic in their habits than the siskin or pine linnet. Occurring to-day, perhaps, in such numbers that one soon tires of shooting them, they are gone on the morrow, and years may elapse before one is seen again. There is, in their melancholy *che-a*, uttered at intervals as small flocks pass in short, waving swoops, far overhead, something sadly suggestive of the cold bleak winds that sweep their northern homes. Yet they are warmly clad, and seem rather to enjoy the wintry blasts that compel most birds to seek a milder clime; and their roaming movements are apparently governed more by some idiosyncrasy in their roving dispositions, and abundance or scarcity of food, than by the severity of the season in the region from which they came.

During the past winter and spring they literally swarmed in Lewis County, N. Y., and thousands of them bred throughout the heavy evergreen forests east of Black River, while many scattered pairs nested in suitable hemlock and balsam swamps in the middle district. They breed remarkably early, and construct large, compact nests, which are usually placed high up on some hemlock or spruce, and well concealed from view. I know of no nest, of equal size, so hard to find. After days of patient search in the evergreen swamps of this vicinity (Locust Grove), Mr. Bagg and myself discovered but a

¹The Summer Birds of the Adirondacks in Franklin County, N. Y. By Theodore Roosevelt, Jr., and H. D. Minot.

single nest. On the 13th of April we were hunting in a low swamp, near White River, when a solitary pine linnet attracted our attention by hopping about on some fallen logs. In a few moments she flew into a large hemlock, which stood apart from the rest, and immediately disappeared. After carefully looking over the entire tree, a limb at a time, Mr. Bagg noticed a bunch of something almost completely concealed by a cluster of small branches. We were not sure that it was a nest at all till a well-aimed stick drove off the parent bird, which was shot and proved to be the female. With great difficulty the nest was secured, and it contained, at that early date (April 13), two nearly fledged young. It was tightly saddled on a large limb, about thirty feet from the ground and nearly fifteen feet from the trunk of the tree, and was so nicely hidden that, from a limb directly above, I could not see it at all. One of the young was skinned, while the other now constitutes a contented member of my sister's "happy family," which previously consisted of an oriole (*Icterus baltimore*), three thistlebirds (*Chrysomitris tristis*) and a nonpareil (*Cyanospiza ciris*). He attained his full growth shortly after his capture, and has since thrived on a mixed diet, though, like his cousins the goldfinches, showing a decided preference for the thickly-seeded spikes of the common plantain (*Plantago major*). Also, like his brighter-plumaged companions, he constantly raises and lowers the occipital feathers when at all alarmed.

In plumage he differs from the adult bird, in having the belly marked with yellow, the wing-bars ochraceous instead of whitish, and the upper parts decidedly tinged with rufus. This rufus cast is due to the fact that the bark-centred feathers of the back are, in the young, margined with fulvous-brown, which is not the case with the old bird. The nest is a very bulky structure for so small a bird, and its rough exterior, loosely built of hemlock twigs, with a few sprigs of pigeon moss (*Polytrichum*) interspersed, is irregular in outline, and measures about six inches in diameter. The interior, on the contrary, is compactly woven into a sort of felt, the chief ingredients of which are thistledown and the fur and hair of various mammals. The cavity is lined with horsehair, and measures two inches and a quarter in diameter by an inch and a quarter in depth. This nest is much more flat than that described by Dr. Brewer² from Cambridge, Mass., for it measures but two inches in height at its highest point. A considerable mass of dung adheres to the small twigs at one point in its exterior, showing that the bird always "headed" the same way, and was not particularly cleanly in her habits. From the size of the

² Baird, Brewer and Ridgway, Vol. I, p. 482, 1874.

young it is clear that this nest could not have been completed much later than the middle of March.

Not content to let the season pass without making a greater effort to secure their eggs, I accepted on the 15th of April, an invitation from my brother, C. Collins Merriam, to accompany him on an excursion through the densely timbered region about Otter Creek (near the eastern border of Lewis County) and Big Otter Lake (Herkimer County), from which it takes its origin. This entire district lies within the area commonly known as "Brown's Tract," and is Canadian in fauna. Never before at any locality have I seen a species of bird represented by such immense numbers of individuals as here attested the abundance of the pine finch. In every part of the forest, from early in the morning till after the sun had disappeared in the west, there was not a moment that their voices were not heard among the pines and spruce trees overhead. And yet, though among them several days, we were not able to discover a single nest. Never have I searched more faithfully for the eggs of any species, and never has my diligence been rewarded with less success. I at first made a systematic survey of a large number of trees, taking a limb at a time, and then climbed so many that I was barely able to get back to camp, but with no better results.

Their nests are placed so high and amidst such thick evergreen foliage that it is almost impossible to find them. As illustrating the number of this species as well as of the red and white-winged cross-bills (*Loxia curvirostra* var. *Americana* and *L. leucoptera*), it may be worth recording that after firing twenty-two small charges of fine dust shot at the cross-bills as they settled into the top of a single dead hemlock, I picked up fifty-one birds, of which twenty-eight were red cross-bills, eight white-winged, and fifteen pine linnets. I aimed at cross-bills only, killing the linnets by chance. Mr. A. J. Dayan was so fortunate as to secure two sets of their eggs from among the pines near Lyon's Falls (in the Black River Valley). The first was completed March 11, and contained but three eggs on the 18th. The second contained two fresh eggs April 20, and was left till the 25th, but no more were deposited."

Dimensions.—Average measurements of eleven specimens: length, 5.00; stretch, 8.63; wing, 2.76; tail, 1.90; culmen, .43; gape, .47; tarsus, .52; middle toe, .45; its claw, .23.

74. *Astragalinus tristis* (Linné). AMERICAN GOLDFINCH; YELLOWBIRD. A permanent resident; breeds; common.

This pretty species, in winter, associates in flocks, feeding upon the seeds of birch, alder and hemlock, besides those of numerous weeds. They are not generally recognized in their plain, but neat winter dress, as the gayly-attired Yellowbirds of summer. In winter,

large numbers are sold in the New York markets, in bunches, under the name of "reed-birds."

Dimensions.—Average measurements of twenty-nine specimens: length, 5·10; stretch, 8·83; wing, 2·82; tail, 1·95; culmen, ·40; gape, ·43; tarsus, ·54; middle toe, ·42; its claw, ·21.

75. *Plectrophanes nivalis* (Linné). SNOW BUNTING; WHITE SNOWBIRD. An irregular winter visitant. It sometimes arrives early in November, and remains until March. Mr. Thomas W. Wilson procured specimens on the railroad, at Constitution Island, as early as November 8, 1875. Mr. William Church Osborn saw them near Garisons, on November 9, 1878. I have seen flocks on the railroad as late as March 12 (1875).

Large numbers of these white-clad visitors from Arctic climes occasionally appear upon the ice of the frozen Hudson: always in severely cold weather, and very often during snow-storms. During the latter part of the winter of 1874-5, when skating up the river, I found large flocks frequenting the sleigh crossings on the Hudson; and smaller bands were numerous along the railroad upon the left bank. I encountered the first flock near Fishkill Landing, where they were feeding, on the sleigh track crossing the river. A number of them were brought down by the discharge of both barrels of my piece, and most of those left alighted upon the nearest trees on shore, but a few returned to their wounded companions, standing erect beside them, and uttering their loud call-note, as if entreating them to come away. They allowed me to come very near before they would forsake their unfortunate companions, and only left them when life was extinct, unless sooner driven away. When these had rejoined the flock upon the bank, the entire body proceeded northward. Subsequently, the species was common all along the Hudson. I did not molest them again, but took good care of the wounded ones, and afterward brought them safe home. They seemed starved, and ate greedily. Their wounds healed very quickly, and, in a few days, they were able to fly about. Soon they became very tame, and would come upon a table to be fed. They were released in the dining-room, where they spent most of the time among some house plants, at the windows; but, from their visits to the table during meals, they became a source of annoyance, and were shut up at those times. Towards spring they became restless, and struggled to get out of their cages, and, on being released, flew to the windows, pecked the glass, and uttered mournful cries.

Upon the railroad, a few flocks are commonly found spending the winter. These soon become begrimed, almost beyond recognition, by contact with the grease and dirt of the track; but they become very fat, for they are abundantly supplied with food,—the grain that

drops through chinks in the cars. Contrary to their usual habits, they are quite arboreal, spending most of the time upon trees, above the track, only descending occasionally to fill their crops, between the passage of trains. Among the mountains on the right bank of the river, I have rarely seen them. When shooting there on December 30, 1878, a flock of five flew overhead, uttering their wild notes, which seem to me to have a very wintry significance, which is quite in keeping with their white plumage and boreal habitat. They are said to occur occasionally at West Point.

The Snow Bunting breeds in the Arctic regions of Europe, Asia and America. A nest, with its complement of four eggs, taken at Akreyri, Iceland, June 13, 1874, was sent to me, together with a number of odd eggs, by Herr Alfred Benzon, of Copenhagen, and I take advantage of this opportunity to describe them. The nest is quite bulky; composed largely of dry grasses, with considerable long, fine, whitish hair interwoven and lining the inside; also a few feathers of some waterfowl, and some of those of its own species. It was built upon the ground, and still has some earth adhering to it. Its external diameter is about 6.00 inches, internal, nearly 3.00; depth, 2.40 externally, and 1.25 internally. The eggs belonging to this set, four in number, were all accidentally broken, but I have mended one of them perfectly, and the rest will answer for the purpose of description. They closely resemble each other in coloration; their ground-color is distinctly greenish-white, quite evenly marked with blotches of pale purplish-brown, and less numerous dashes of umber-brown; the spotting is a little more distinct at their larger ends. The mended egg measured .88 by .65 of an inch.

Seven eggs, taken at Akreyri, Iceland, in 1872, are now before me. Their ground-color varies from pale greenish to dirty white; some are so thickly covered with rusty-brown markings as almost to conceal the ground; others are sparsely or thickly spotted with dark umber-brown or sepia, sometimes aggregated at the larger end, sometimes arranged circularly about that extremity, and sometimes pretty uniformly distributed over the whole egg. They measure, respectively, .94 × .67; .94 × .68; .90 × .64; .91 × .63; .85 × .65; .85 × .66; .88 × .62.

Dimensions.—Average measurements of ten specimens: length, 6.88; stretch, 12.47; wing, 4.07; tail, 2.70; culmen, .45; tarsus, .83.

76. *Passerculus savanna* (Wilson). SAVANNA SPARROW. Common during spring and autumn; a few are seen during summer, but none in winter. It will probably prove to be a continuous resident; but of rare occurrence during the breeding season, and in winter. During migrations they are especially numerous upon the marshes. They make a whirring noise in flight, are not shy, and their note is a low *tweet*.

Dimensions.—Average measurements of nine specimens: length, 5·68; stretch, 9·10; wing, 2·62; tail, 2·09; culmen, ·43; gape, ·47; tarsus, ·80.

77. *Poœcetes gramineus* (*Gmelin*). BAY-WINGED SPARROW. A summer resident; breeds. Arrives in March (30, 1878), and stays till November. It is found in old, weedy fields, and has a pretty little song in the spring.

Dimensions.—Average measurements of eleven specimens: length, 6·12; stretch, 10·35; wing, 3·06; tail, 2·38.

78. *Coturniculus passerinus* (*Wilson*). YELLOW-WINGED SPARROW. A summer resident; breeds. Abundant in most parts of the Hudson Valley. In this vicinity there are few localities which suit its habits, and it is, consequently, rare. Mr. Wm. Church Osborn first apprised me of its occurrence, near Garrisons, in some high, sandy fields, where it breeds every summer. A female shot there, May 18, 1878, contained a full-sized ovum.

Dimensions.—Average measurements of three specimens: length, 5·38; stretch, 8·52; wing, 2·38; tail, 1·79; culmen, ·47; gape, ·51; tarsus, ·87; middle toe, ·57; its claw, ·15.

79. *Ammodramus caudacutus* (*Gmelin*). SHARP-TAILED FINCH. I have only found it during the month of October (16, 1874; 12, 1877), and at a single locality—on the salt marsh that joins Consook Island to the west shore.* Mr. Wm. Church Osborn shot a fine male specimen, in the same place, on October 12, 1878.

Dimensions.—Average measurements of two specimens: length, 5·50; stretch, 7·50; wing, 2·24; tail, 2·00; culmen, ·46; gape, ·54; tarsus, ·87; middle toe and claw, ·80.

80. *Melospiza palustris* (*Wilson*). SWAMP SPARROW. A summer resident; breeds. Arrives from the south in March, and stays till December. Occasionally seen in early winter. It will probably be found to be an occasional winter resident in the Highlands, as it is lower down the Hudson. It is found in swampy places inland, about the shores of ponds, and, most abundantly, on the salt marshes along the river. It builds its nest in a tussock of grass, and lays its eggs about the last of May (23, 1877). Its song is pretty, and differs from those of our other Sparrows. Mr. Francis Butterfass showed me an albinistic specimen that was about one-half white, which he shot at Cold Spring, on the Hudson.

Dimensions.—Average measurements of fourteen specimens: length, 5·89; stretch, 7·90; wing, 2·34; tail, 2·32; culmen, ·46; gape, ·49; tarsus, ·86; middle toe, ·61; middle toe and its claw, ·85.

81. *Melospiza fasciata* (*Wilson*). SONG SPARROW. An abundant resident species; breeds. Always present throughout even the severest winters, in favorable situations; its abundance and disper-

sion depending on the character of the winter. But these hardy northerners depart in February, and are succeeded by the hosts of its species which make up the great northward migration, which begins late in February. It commences to build in April, and its first clutch of eggs is commonly deposited late in that month. The nest may be found in various situations—frequently attached to rushes in the marshes. On April 27, 1878, a pair of Song Sparrows were incubating their eggs, in an old nest of the Red-winged Blackbird (*Agelaius phœniceus*). In the same season, young were seen flying by May 18. It is not uncommon to find it sitting upon a late brood of eggs during the month of August. Prof. James M. DeGarmo has a nearly perfect albino, taken at Rhinebeck, on the Hudson.

Dimensions.—Average measurements of twenty-five specimens: length, 6·30; stretch, 8·57; wing, 2·52; tail, 2·62; culmen, ·49; tarsus, ·82; middle toe, ·67; middle toe and its claw, ·85.

82. Junco hyemalis (*Linné*). EASTERN SNOWBIRD. An abundant winter resident. Arrives in autumn about the end of September (30, 1874; October 12, 1875; September 28, 1876; October 18, 1879), and remains till May (1, 1873; 9, 1874; 8, 1875; 5, 1876; April 22, 1878; May 8, 1879; April 23, 1880). It breeds plentifully in the Catskill Mountains, and doubtless on the Shawangunk range in Orange County, N. Y. Mr. Wm. Church Osborn found it at Lake Mohonk, Ulster County, N. Y., in July, 1877. The Snowbird sings very sweetly before leaving us in the spring.

Dimensions.—Average measurements of twenty-four specimens: length, 6·27; stretch, 9·78; wing, 3·03; tail, 2·71; culmen, ·41; tarsus, ·81; middle toe and its claw, ·72.

83. Spizella montana (*Forster*). TREE SPARROW. A very abundant winter resident. Arrives from the North about the end of October (31, 1874; 30, 1876; November 7, 1877; October 26, 1878; November 17 [or earlier], 1879), and departs in April (29, 1874; 29, 1875; 29, 1876; 13, 1877; March 28, 1878; April 28, 1879; April 8, 1880). In the spring it has a very agreeable song, ending in a loud trill. Its food, in winter, consists largely of the seeds of alder and birch.

Dimensions.—Average measurements of twenty-eight specimens: length, 6·36; stretch, 9·46; wing, 2·99; tail, 2·82; culmen, ·41; gape, ·47; tarsus, ·80; middle toe, ·56; middle toe and its claw, ·76.

84. Spizella socialis (*Wilson*). CHIPPING SPARROW. A very abundant summer resident; breeds. Arrives from the South early in April (12, 1874 [2, F. S. Osborn]; 7, 1875; 17, 1876 [15, de Nottbeck]; 16, 1877; 3, 1878; 10, 1879; 5, 1880), and departs late in autumn (October 25, 1874; 29, 1876; 23, 1877; November 29, 1879). Begins to lay about the middle of May (16, 1872; 17, 1873; 12, 1877. Each nest contained its full complement of eggs).

The Chipping Sparrow, like the Marsh Wren (*Telmatodytes palustris*) and some other species, has the habit of waking up in the night and singing. This has also been noted by John Burroughs, C. Hart Merriam, and other writers. Another occurrence, to which attention has also been repeatedly called, is a singular accident to which this species appears to be especially liable, viz.: the frequency with which it meets a tragic end, in consequence of having accidentally become inextricably entangled in the long hairs with which it lines its nest. Three instances of the occurrence of this accident have come under my own observation. The last was shown me by Miss Anna B. Warner, of Constitution Island, in which case the bird was completely netted in the horsehair, which was wound about its wings in the most intricate manner. In the other cases the birds were found suspended from their nests by a single hair, which encircled their necks. In one case the male bird attracted my attention by its repeated cries of distress; and I found the female suspended in the manner indicated, in which condition it had evidently remained for a day or two, as it was very putrid.

Dimensions.—Average measurements of eleven specimens: length, 5·37; stretch, 8·73; wing, 2·74; tail, 2·29; culmen, ·36; tarsus, ·64.

85. *Spizella pusilla* (Wilson). FIELD SPARROW. An abundant summer resident, arriving in April (28, 1874; 21, 1875; 17, 1876; 26, 1879); begins to lay its eggs about the middle of May (16, 1876; 18, 1878). It has a very pleasant song.

Dimensions.—Average measurements of six specimens: length, 5·68; stretch, 8·14; wing, 2·50; tail, 2·55; culmen, ·40; gape, ·42; tarsus, ·74; middle toe, ·50; middle toe and its claw, ·65.

86. *Zonotrichia albicollis* (Gmelin). WHITE-THROATED SPARROW. A very abundant spring and fall migrant, arriving, in spring, towards the last of April, and remaining till late in May (5, 1873; April 22 to May 16, 1874; April 30 to May 23, 1875; April 22 to May 28, 1876; April 2 to May 22, 1877; April 27 to May 18, 1878; April 23 to about May 30, 1879; April 14 to May 25, 1880). It reaches us, in autumn, towards the end of September (30, 1874; 23, 1876; 23, 1878), and stays till about the middle of November. Dr. A. K. Fisher saw it at Sing Sing, on the Hudson, on December 1, 1878. It is a regular winter resident in the Central Park, New York City. Mr. Eugene P. Bicknell says,³ in an article read before the Linnæan Society of New York, and treating of some birds of Riverdale, on the Hudson: "A flock of white-throated sparrows (*Zonotrichia albicollis*), have been about the place all winter, coming to roost in the evening among some large spruce trees close to the house. A few others have

³ "The Country," Vol. 1, No. 23, p. 324, March 30, 1878.

wintered here, but I have failed to find them except in the vicinity of private residences where an abundance of evergreens afford them a suitable shelter."

Dimensions.—Average measurements of eighteen specimens: length, 6·74; stretch, 9·46; wing, 2·89; tail, 2·86; culmen, ·50; gape, ·54; tarsus, ·90; middle toe, ·66; middle toe and its claw, ·88.

87. *Zonotrichia leucophrys* (Forster). WHITE-CROWNED SPARROW. A rather rare spring and fall migrant. Observed from May 18 (1877) to 23 (1876). Mr. Thomas W. Wilson has taken specimens, at Cold Spring, on the Hudson, on October 12 and 16, 1875, and May 12, 1876.

Dimensions.—Average measurements of two adult females (Nos. 1,177 and 1,181, Highland Falls, N. Y., May 23, 1876, E. A. M.): length, 6·88; stretch, 9·82; wing, 3·03; tail, 2·88; culmen, ·50; tarsus, ·85; middle toe and its claw ·81.

88. *Passer domesticus* (Linné). EUROPEAN HOUSE SPARROW. *Introduced.* Resident; breeds. It is a pest, here, as everywhere. All intelligent landholders shoot it whenever it appears on their premises. The grape-growers are especially vindictive against it. My gardener complains that it destroys his green peas.

During winter, the English Sparrows frequent the marshes along the Hudson, in large flocks; but, in general, they make their homes in the towns, whence they sally forth to depredate in the country around; but to return to the protection of their city homes at the slightest alarm.

Mr. William Church Osborn furnishes the following interesting observation on its habits: "An adult male Yellow-bellied Woodpecker (*Sphyrapicus varius*) was taken dead, in a back yard on 35th-street, New York City. It was overcome, after a stout resistance, by the united attack of a number (twenty-two were counted that engaged in the affair) of English Sparrows, one of their number having been left dead upon the field along with the luckless Woodpecker."

Dimensions.—Average measurements of fifteen specimens: length, 6·33; stretch, 9·72; wing, 3·01; tail, 2·30; culmen, ·50; gape, ·60; tarsus, ·76; middle toe, ·63; its claw, ·21.

89. *Passerella iliaca* (Merrem). FOX SPARROW. An abundant spring and fall migrant. In spring, arrives early in March, and stays till about the middle of April (March, 25, 1871; 21, 1873; 5 to April 30, 1874; 16 to April 28, 1875; 6 to April 14, 1876; 23 to April 2, 1877; February 28 to April 4, 1878; March 12 to April 10, 1879; March 6 to April 8, 1880). In autumn, arrives towards the end of October, and stays till about the first of December (October 22 to November 25, 1874; October 28, 1876; November 9 to December 8, 1877; October 26, 1878; October 26 to November 30, 1879).

This handsome species is the largest of our Sparrows, and the first

strictly migratory species to appear in spring. It begins to sing soon after its arrival. Its notes are full and rich; and, when singing, it is apt to be perched on a tree-top, although it frequently sings in a brush-heap. Its ordinary note is a low *tweet*, sometimes modulated so as to resemble the Cedar-bird's note; and it also gives a sharp, metallic utterance like the Brown Thrasher's (*Harporhynchus rufus*). Its flight is accompanied by a loud whirring sound.

Dimensions.—Average measurements of twenty-three specimens: length, 7·26; stretch, 11·14; wing, 3·39; tail, 2·85; culmen, ·50; gape, ·57; tarsus, ·96; middle toe, ·64; its claw, ·31.

90. Zamelodia ludoviciana (Linné). ROSE-BREADED GROSBEAK. A summer resident; breeds. Most abundant during its migrations. Arrives early in May (13, 1873; 9, 1874; 13, 1875; 11, 1876; 16, 1877; 9, 1878; 10, 1879; 4, 1880), and stays through September (21, 1874).

This lovely bird is found in the open woods; but it also resorts to fields and orchards in the springtime. Its black-and-white colors remind one strongly of the Bobolink; but, besides, its folded wing conceals the rose-colored lining in the male, and yellow in his plain-clad mate; and,—most conspicuous,—a patch of brightest carmine adorns the breast of the male. The Rose-breasted Grosbeak destroys the fruit-blossoms in the orchards, being especially fond of those of the cherry; and I suppose that it really does some damage to the crops; this, to my mind, however, it more than compensates for, by adding so much brightness and melody to the happiest of seasons. But it has another bad habit: where fields, newly sown with the cereal grains, are convenient to its woodland retreats—for it is a shy bird—its species will collect in large flocks, and resort there continually, as long as there is a grain of seed to be had.

Dimensions.—Average measurements of sixteen specimens:—length, 8·12; stretch, 12·92; wing, 4·02; tail, 2·99; culmen, ·69; gape, ·76; tarsus, ·88; middle toe, ·64; its claw, ·27; middle toe and its claw, ·83.

91. Passerina cyanea (Linné). INDIGO BIRD. A common summer resident; breeds abundantly. Arrives early in May (10, 1872; 13, 1873; 12, 1874; 12, 1875; 20, 1876; 14, 1877; 4, 1878; 15, 1879; 7, 1880), and departs in September (20, 1876; 19, 1879).

These pretty birds are common in neglected fields, and in the edge of the woods. I have known them to dwell, and rear their young, in the densest swamps of the wilderness, but this is quite exceptional, and they are rarely seen away from civilized parts. Their nests are built in bushes—commonly in blackberries growing along fences, or even in gardens of cultivated raspberries. Their song is very clear and fine. They pillage the grain-fields in company with the Purple Finch and Rose-breasted Grosbeaks. In autumn, associated in im-

mense flocks, they are seen feeding with the Blackbirds and Reedbirds upon the salt marshes along the Hudson, when it is interesting to observe the various transitional phases of their plumage, so well exhibited by an abundance of differing individuals.

Dimensions.—Average measurements of sixteen specimens: length, 5·59; stretch, 8·52; wing, 2·58; tail, 2·11; culmen, ·41; gape, ·45; tarsus, ·67; middle toe, ·49; its claw, ·19.

92. *Cardinalis virginianus* (Brisson). CARDINAL GROSBEEK; VIRGINIA REDBIRD. A bird flew close past me down a ravine in the woods, on May 11, 1876. It uttered a note which I distinctly remember; it must have been a Cardinal Grosbeak, though I was not then certain about its identity, thinking it might be the Summer Tanager (*Pyrranga aestiva*).

93. *Pipilo erythrophthalmus* (Linné). GROUND ROBIN; MARSH ROBIN; TOWHEE BUNTING; CHEWINK. An abundant summer resident; breeds. Arrives the last of April (27, 1872; May 8, 1873; May 7, 1874; April 30, 1875; April 25, 1876; May 5, 1877; April 26, 1878; April 27, 1879; April 28, 1880), and stays till late in autumn (October 15, 1874; 11, 1875, Wilson, at Cold Spring; 25, 1876 [one that had been disabled was captured on the 28th]).

Dimensions.—Average measurements of seventeen specimens:—length, 8·35; stretch, 11·14; wing, 3·34; tail, 3·68; culmen, ·55; gape, ·71; tarsus, 1·09; middle toe, ·73; its claw, ·30; middle toe and its claw, 1·00.

Family, ICTERIDÆ.

94. *Dolichonyx oryzivorus* (Linné). BOBOLINK; REED-BIRD; RICE-BIRD. A summer resident; breeds. Arrives early in May (12, 1873; 21, 1875; 23, 1876; 22, 1877; 5, 1878), and stays till about the end of September (10, 1874; 22, 1876; 18, 1879). Not a very abundant summer resident; but occurs in large flocks during August and September, feeding upon the salt marshes along the Hudson.

Dimensions.—Average measurements of eight males:—length, 7·55; stretch, 11·95; wing, 3·76; tail, 2·73; culmen, ·60; tarsus, 1·10; middle toe and its claw, 1·06. Female:—length, 7·15; stretch, 11·25; wing, 3·54; tail, 2·53; culmen, ·58; gape, ·61; tarsus, 1·07.

95. *Molothrus ater* (Gmelin). COW-BIRD; COW-BLACKBIRD. A common summer resident; breeds abundantly. Arrives about the first of April (29, 1873; 18, 1874 [Frederic S. Osborn, at Garrisons]; 29, 1875; 17, 1876; 13, 1877; March 30, 1878; April 5, 1879; April 10, 1880), and disappears in August.

On Long Island, and in the vicinity of New York, Cow-birds spend the winter; but they have not been seen in the Highlands at that season. Mr. Jas. S. Buchanan took a perfect albino, at Newburgh,

on the Hudson. Cow-Blackbirds come to us in abundance early in April, and may then be seen running swiftly and gracefully about,—not hopping,—and picking up seeds in newly-planted fields. They are reproductive parasites, as well as polygamists. One of their eggs was hatched by the European House Sparrows, in Highland Falls, N. Y.; the young Cow-bird thrived, and remained with the Sparrows in the town for some time, and it was a common sight to see them feeding it in the street. Their amours are conducted in an amusing manner. The sexes associate indiscriminately, and in varying proportions. The males, in green-black and chocolate-brown dress, commence the performance by walking about with their necks arched, and decurved, so that their bills nearly touch the ground; then a male approaches one of the females,—which are considerably smaller, and brownish in color,—running at full speed, and, when close to her, pitches forward till his bill nearly touches the ground: this as if in salutation. The different males repeat this movement, and the more ardent ones ruff up all their feathers, and drag their expanded tails upon the ground, as they strut up to the side of their favorites, with skins inflated to an indefinite and alarming extent by the amorous passions within; meanwhile they utter various uncouth guttural noises, some of which resemble the loud, “cork-drawing” notes of the *Corvula*, while others are precisely like the sounds produced by tilting a partly empty cask. The females pay little attention, fill their crops, and utter an occasional note resembling that of the Cedar-bird (*Ampelis cedrorum*).

Dimensions.—Average measurements of eleven males: length, 7·92; stretch, 13·57; wing, 4·24; tail, 3·01; culmen, ·67; gape, ·68; tarsus, 1·02; middle toe, ·72; middle toe and its claw, ·94; claw alone, ·25. Average measurements of five females: length, 7·18; stretch, 12·22; wing, 3·84; tail, 2·68; culmen, ·61; gape, ·63; tarsus, ·94; middle toe, ·64; middle toe and its claw, ·94; claw alone, ·26.

96. *Agelæus phœniceus* (Linné). RED-WINGED BLACKBIRD; MARSH BLACKBIRD. A common summer resident; breeds. Arrives about the beginning of March (first seen March 25, 1871; April 2, 1872; March 31, 1873; April 25, 1874; March 18, 1875; 6, 1876, Thomas W. Wilson; April 7, 1877; March 27, 1878; 29, 1879; 28, 1880), and departs before December (last seen November 17, 1877).

Dimensions.—Average measurements of twenty-two males; length, 9·51; stretch, 15·23; wing, 4·72; tail, 3·77; culmen, ·93; gape, ·97; tarsus, 1·11; middle toe, ·77; middle toe and its claw, 1·05. Average measurements of eight females: length, 7·74; stretch, 12·56; wing, 3·92; tail, 3·01; culmen, ·74; tarsus, 1·01.

97. *Sturnella magna* (Linné). MEADOW-LARK; FIELD-LARK. A resident species; but only occasional, and never abundant, in win-

ter; breeds in favorable situations. The migrants arrive, or pass through, in March (April 10, 1873; 2, 1877; March 30, 1878; April 5, 1879; April 6, 1880).

Dimensions. — Average measurements of four males: length, 10·75; stretch, 16·53; wing, 4·76; tail, 3·16; culmen, 1·35; gape, 1·45; tarsus, 1·72; middle toe, 1·15; middle toe and its claw, 1·53; claw alone, ·35. Female: length, 9·57; stretch, 14·86; wing, 4·22; tail, 2·75; culmen, 1·30; gape, 1·35; tarsus, 1·60; middle toe, 1·17; its claw, ·40.

98. *Icterus spurius* (Linné). ORCHARD ORIOLE. A common summer resident; breeds. Arrives early in May (9, 1872; 19, 1873; 13, 1874; 9, 1875; 7, 1876 [5, de Nottbeck, at Fishkill]; 15, 1877; 12, 1878; 8, 1879; 3, 1880), and remains till late in September (17, 1874).

Dimensions. — Average measurements of eleven males: length, 7·32; stretch, 10·34; wing, 3·18; tail, 2·92; culmen, ·65; gape, 74; tarsus, ·88; middle toe, ·58; its claw, ·26.

99. *Icterus galbula* (Linné, 1758). BALTIMORE ORIOLE. An abundant summer resident; breeds plentifully. Arrives early in May (9, 1872; 11, 1873; 9, 1874; 9, 1875; 7, 1876; 13, 1877; 3, 1878; 6, 1879; 2, 1880), and departs early in September (22, 1874.) In a nest of unusually large size, found in a pear-tree near my house by Louis A. Zerega, in June, 1874, there were no less than eight eggs.

Dimensions. — Average measurements of twenty-three specimens: length, 7·53; stretch, 11·72; wing, 3·52; tail, 2·84; culmen, ·70; tarsus, ·85.

100. *Scolecophagus ferrugineus* (Gmelin). RUSTY GRACKLE. A common spring and fall migrant. Arrives from the South early in March (30, 1873; 19, 1874; 17, 1875; 14, 1876; April 5, 1879; March 11, 1880), and all pass through before the end of May. Returning in autumn, they are found from September until December.

Dimensions. — Average measurements of ten specimens: length, 9·55; stretch, 14·60; wing, 4·61; tail, 3·52; culmen, ·91; tarsus, 1·06; middle toe and its claw, ·75.

101. *Quiscalus purpureus* (Linné). PURPLE GRACKLE; CROW BLACKBIRD. A spring and fall migrant. I do not know that any breed in the Highlands; but numbers do so about Newburgh, and Fishkill-on-the-Hudson, just above the Highlands; and the species nests plentifully lower down the river. It arrives in March (11, 1871; 6, 1874; February 29, 1877, Fishkill, de Nottbeck; March 8, 1878; 12, 1879). In autumn, it remains till November.

In the mountains, Crow Blackbirds are quite uncommon, although they are abundant on both sides of us. In Orange County, I have observed them in the greatest numbers. On the first of May last, I took the stage at Newburgh, for Cornwall. The bridge at Moodna Creek was being repaired, so the coach proceeded *via* Vail's Gate.

On the way, were seen large numbers of Grackles, of varieties *purpureus et æneus*. The stage was a horribly rickety, old rattletrap, which still bore some slight vestiges of the conventional yellow color with which it had originally been decorated; on its top were piled some long, crooked, heavy iron rods, which rattled dangerously overhead. This splendid vehicle was drawn by two lean and ghostly horses, whose best days were passed a decade or more ago; as the driver whipped them up the long hills, I could not help feeling that I was doing violence to my humanity by sitting on the driver's seat instead of getting out and helping the horses pull, as my conscience told me I ought to be doing. The roads and fences were lined with sturdy, old cedars, and, in these, the grackles were ensconced. As we drove past, almost brushing the branches, they hopped down close to us, leered at our bony nags, peered into the coach and screamed derisively at us, and spread their tails in high glee as they called to their neighbors in advance to join in the merriment at our expense, and they in turn jeered us as we passed by. I could not help feeling ashamed, and, involuntarily, turned to see if our red-nosed driver shared my emotions. The Crow Blackbirds were scattered over the fields on both sides of the road. The bronzed variety shone like gold in the sunlight, while the purple ones glittered brilliantly in their metallic plumage.

I have never known them to breed in the mountains; but in all the low-lying meadow-country along the Hudson, they do so abundantly—especially where coniferous trees abound.

Dimensions.—Average measurements of adult male: length, 12·50; stretch, 17·75; wing, 5·55; tail, 5·40; culmen, 1·17; gape, 1·35; tarsus, 1·45; middle toe, 1·00; its claw, ·34.

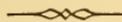
REGULAR MEETING, MONDAY, APRIL 5, 1880.

MEETING this evening. The PRESIDENT in the chair. Records read. Donations and correspondence announced.

Rev. George H. Hosmer, of Salem, and Rev. E. C. Butler, of Beverly, were duly elected members.

Voted, That the thanks of the Institute be tendered to Hon. George B. Loring for courtesies and civilities extended to members of the Institute and their friends, during the recent visit to Washington, D. C.

Prof. EDWARD S. MORSE made a communication on the persistence of Korean art in Japanese pottery. His remarks were illustrated by numerous examples of Korean and Japanese ware. One very conspicuous character of Korean pottery of three hundred years ago was the inlaying of the ornamentation in white or black upon a gray ground. The design being first cut out in delicate lines or large areas in the case of leaves, or else impressed by means of a stamp. These depressed portions were then filled in with either white or black pigments. He showed that wherever the Korean potters had settled in Japan as in Satsuma, Higo, Hizen, Suwo, and other places, the pottery still bears the impress of this peculiar method of ornamentation.



REGULAR MEETING, MONDAY, APRIL 19, 1880.

MEETING this evening. The PRESIDENT in the chair. Records read. Donations and correspondence announced.

HON. NATHAN CROSBY, of Lowell, read an interesting and valuable paper entitled "Essex County and Essex County Men."

The paper is printed in the Historical Collections of the Essex Institute, Vol. XVII, April, 1880.



REGULAR MEETING, MONDAY, MAY 3, 1880.

MEETING this evening. The PRESIDENT in the chair. Records read. Donations and correspondence announced.

William D. Dennis, of Salem, was elected a resident member.

R. A. Brock, of Richmond, Va., was duly elected a corresponding member.

Messrs. James Kimball, T. F. Hunt, and H. W. Putnam, were appointed a committee to nominate a list of officers to be balloted for at the Annual Meeting.

A vote of thanks was passed to Hon. Nathan Crosby, for his paper on "Essex County and Essex County Men," read by him at a recent meeting of the Institute.

The Secretary was instructed to ask Judge Crosby for a copy of the paper for publication.

Mr. HUNT stated that the "Roundabout Club," of Melrose, proposed to visit Salem on the 17th of June next, and on the motion of the same gentleman, the President and Secretary were made a committee to extend the civilities of the Institute to the club.

Voted, To hold the "Winthrop" Field Meeting on the 22d of June next.

ANNUAL MEETING, MONDAY, MAY 17, 1880.

THE ANNUAL MEETING, this evening at 7.30 o'clock. The PRESIDENT in the chair. Records of last Annual Meeting read.

The reports of Secretary, Treasurer, Auditor, Librarian, and the Curators and Committees were read and duly accepted, and ordered to be placed on file.

Rev. George W. Gardner, of Marblehead, was elected a member.

The Committee appointed at the previous meeting to nominate a list of officers for the ensuing year reported the following :

PRESIDENT:

HENRY WHEATLAND.

VICE-PRESIDENTS:

ABNER C. GOODELL, JR.,
FREDERICK W. PUTNAM,

WILLIAM SUTTON,
DANIEL B. HAGAR.

SECRETARY:

GEORGE M. WHIPPLE.

TREASURER:

GEORGE D. PHIPPEN.

AUDITOR:

RICHARD C. MANNING.

LIBRARIAN:

WILLIAM P. UPHAM.

CURATORS:

History—JAMES KIMBALL.*Manuscripts*—WILLIAM P. UPHAM.*Archæology*—FREDERICK W. PUTNAM.*Numismatics*—MATTHEW A. STICKNEY.*Geology*—ISAAC J. OSBUN.*Botany*—GEORGE D. PHIPPEN.*Zoology*—EDWARD S. MORSE.*Horticulture*—HENRY W. PUTNAM.*Music*—JOSHUA PHIPPEN, JR.*Painting & Sculpture*—T. F. HUNT.*Technology*—EDWIN C. BOLLES.

COMMITTEES:

*Finance:*The PRESIDENT, *Chairman ex off.*

JAS. KIMBALL. JAS. O. SAFFORD. HENRY M. BROOKS. GEO. R. EMMERTON.
The TREASURER, *ex off.*

Library:

CHARLES W. PALFRAY. GEORGE F. FLINT. HENRY F. KING.
WILLIAM NEILSON. WILLIAM D. NORTHEND.
The LIBRARIAN, *ex off.*

Publication:

EDWARD S. ATWOOD. ABNER C. GOODELL, JR. EDWIN C. BOLLES.
JAMES KIMBALL. T. F. HUNT.
JAMES A. EMMERTON.

Lecture:

FREDERICK W. PUTNAM. AMOS H. JOHNSON. ARTHUR L. HUNTINGTON.
FIELDER ISRAEL. ROBERT S. RANTOUL.

*Field Meeting:*The SECRETARY, *Chairman ex off.*

GEORGE A. PERKINS, Salem. GEORGE D. PHIPPEN, Salem.
GEORGE COGSWELL, Bradford. JAMES H. EMERTON, Salem.
FRANCIS H. APPLETON, Peabody. EBEN N. WALTON, Salem.
NATHANIEL A. HORTON, Salem. WINFIELD S. NEVINS, Salem.
EDWARD S. MORSE, Salem.

The PRESIDENT appointed Messrs. Caleb Cooke and William Neilson to receive and count the ballots. These gentlemen attended to their duty, and reported that nineteen ballots were thrown all for the persons above stated, and the ticket as nominated was declared elected.

VICE PRESIDENT F. W. PUTNAM referred to the coming Winthrop Field Meeting and read a humorous paper, written by Mr. Horace Scudder and read by him at a late club dinner. It was entitled "A Memorial Supper on the death of the Memorable and truly Honorable John Winthrop, Esq."

THE RETROSPECT OF THE YEAR

compiled from the several reports read at the meeting, presents the work of the Institute in the various departments since the last annual meeting.

MEMBERS.—Changes occur in the list of our associates by the addition of new names, and the withdrawal of some by resignation, removal from the county or vicinity, or by death. Eleven resident members have died, and we have received information of the decease of three of our correspondents.

Alfred Peabody, son of Nathan and Hannah (Stickney) Peabody, born Feb. 3, 1806; merchant; died at Salem, June 13, 1879, aged 73 yrs., 4 mos., 10 days. Elected a member March 26, 1851.

Edward Fitzgerald, physician in Salem; born in Ireland Jan. 1, 1826; son of Richard and Johannah (Fitzgerald) Fitzgerald; died July 7, 1879. Elected a member March 30, 1859.

Thomas M. Saunders. In early life a captain and supercargo in the East India trade; a merchant; son of Daniel and Sarah (Gill) Saunders, born June 10, 1795; died Aug. 19, 1879. Elected a member July 6, 1864.

Joseph A. Goldthwaite, son of Ezekiel and Mary (Fuller) Goldthwaite; born at Salem, Aug. 25, 1813; a cooper, in early life; at the time of his decease, superintendent of the Old Men's Home, Salem; died Sept. 2, 1879, aged 66 years. Elected a member May 8, 1857.

Henry L. Williams; merchant and an ex-mayor of Salem; son of Israel and Lydia (Waite) Williams, born at Salem, July 23, 1817; died Sept. 27, 1879. Elected a member Sept. 16, 1867.

Benjamin F. Mudge, son of James and Ruth (Atwell)

Mudge, of Lynn; born in Orrington, Me., Aug. 11, 1817; graduated at Wesleyan Univ., 1840; a lawyer, and mayor of Lynn in 1852; removed to Kansas in 1861—State Geologist and Professor of Natural History in State Agric. College; died at Manhattan, Kans., Nov. 21, 1879. Elected a member April 23, 1856.

Nathaniel Brown, son of Nathaniel and Elizabeth (Millett) Brown, of Salem; sea captain and merchant, mayor of Salem; born March 19, 1827; died Dec. 10, 1879, aged 52 yrs., 8 mos., 22 days. Elected a member July 6, 1864.

Charles Lawrence, son of Abel and Abigail (Page) Lawrence, born at Salem, Oct. 7, 1795, graduated at Harv. Univ. 1815; in early life went several voyages to India, in later life retired on a farm in Danvers; died in Danvers, Dec. 21, 1879, aged 84. Original member.

Josiah Newhall, son of Jacob and Ede (Marble) Newhall, of Lynnfield, born in Lynnfield, June 6, 1794. In early life a teacher, afterwards a farmer and horticulturist; died in Lynnfield, Dec. 26, 1879. Elected a member Feb. 13, 1867.

Thomas Mayo Brewer, son of Thomas Brewer, born Nov. 21, 1814, in Boston, graduated at Harv. Univ., 1835; a physician, afterwards an editor and publisher, distinguished as an ornithologist; died in Boston, Jan. 23, 1880, aged 65 years. Elected a corresponding member Oct. 26, 1859.

Richard Frothingham, son of Richard and Mary (Thompson) Frothingham, born in Charlestown, Mass., Jan. 31, 1812, and was devoted during all his life to literary pursuits; author of "History of Charlestown," "History of the Siege of Boston," "Life of Gen. Joseph Warren," etc., many years co-editor of the Boston Post, ex-mayor of Charlestown; died at Charlestown, Jan. 30, 1880.

Benjamin Hodges Silsbee, son of William and Mary (Hodges) Silsbee; born at Salem, October 10, 1811; graduated at Harv. Univ., 1831; merchant; died Feb. 22, 1880. An original member.

Lewis N. Tappan, son of Eben and Sallie (Hooper) Tappan, born in Manchester, engaged in Mining operations, winters spent in Boston, summers in Manchester; died in Leadville, Colorado, Feb. 25, 1880. Elected a member Oct. 5, 1874.

William Dean Waters, son of Joseph and Mary (Dean) Waters, born at Salem, Nov. 30, 1798; merchant; died at Salem, April 20, 1880.

FIELD MEETINGS.—Four during the summer. *First*, near Ship Rock, South Peabody, on Friday, June 20, 1879, the afternoon session was held in the chapel near by. Rev. George F. Wright, of Andover, spoke of the geology of that vicinity, Messrs. James H. Emerton and G. A. Perkins, of Salem, on the plants collected, Rev. C. C. Carpenter and Samuel Brown, of South Peabody, Rev. Messrs. Israel and Hosmer, of Salem, and the chairman, on historical and general subjects. *Second*, at Andover, Friday, June 27, 1879. The various places of historical or scientific interest were visited during the forenoon, under the direction of Rev. George F. Wright, of that place. The afternoon session was held in the Free Congregational Church. The speakers were Rev. George F. Wright, Prof. William H. Niles, Rev. Francis H. Johnson, Prof. Goldsmith, principal of the Punchard High School, Mr. J. H. Emerton, Rev. Selah Merrill, and Rev. E. S. Atwood. *Third*, at the Asylum Station in Danvers, Thursday, July 31, 1879. The afternoon session was held in Hathorne Hall, in the Asylum Building. Dr. May, the superintendent, gave a description of the building, method of heating, ventilation, etc. The President and

Mr. Andrew Nichols alluded to the historical associations of this locality. Rev. L. M. Livermore, Mr. J. H. Emerton, Dr. George A. Perkins, Rev. Fielder Israel, Rev. Mr. Wright, of Danvers, made appropriate remarks. *Fourth*, at Bay View, Gloucester, the seaside residence of Col. J. H. French, by whose invitation a very pleasant meeting was held, Wednesday, Aug. 27, 1879. The Cape Ann Literary and Scientific Society united with the Institute on this occasion. Col. French, Dr. Conant, President of the Cape Ann L. and S. Society, Judge Davis, Mr. J. H. Emerton, Judge Drake, of the Court of Claims, Washington, D. C.; Prof. A. Hyatt, Dr. Davis, and Mr. N. A. Horton were among the speakers.

EXCURSIONS.—Three excursions. *First*, a summer excursion, embracing the following interesting points: Saratoga Springs, Watkins Glen, Seneca Lake, Niagara Falls, River St. Lawrence and Thousand Isles, Montreal and Lake Memphremagog, left Salem, Tuesday, July 15, 1879, and returned on Thursday, July 24. *Second*, the autumnal excursion during the first week in September, leaving Salem, Tuesday, Sept. 2, 1879, for Saratoga, Lake George, Ticonderoga, Lake Champlain, Montpelier, Vt., and the Franconia mountains, returning on Saturday, Sept. 6. *Third*, to Washington, D. C., and Richmond, Va., leaving Salem on Thursday, March 18, 1880, and returning Saturday, March 27, with a side trip to Mount Vernon and sufficient time to notice many objects of interest in the two cities.

LECTURES.—A course of eight Geographical lectures under the direction of the Lecture Committee, was as follows: *Ist*, Monday, Sept. 29, 1879, Rev. E. S. Atwood,

"Palestine." 2d, Monday, Oct. 13, 1879, Rev. George T. Flanders, "Spain, Morocco and Algiers." 3d, Monday, Oct. 27, 1879, Frederick E. Ober, "Lesser Antilles." 4th, Monday, Nov. 10, 1879, S. G. W. Benjamin, "Portugal." 5th, Monday, Dec. 1, 1879, Rev. E. C. Bolles, "England." 6th, Monday, Dec. 22, 1879, E. S. Morse, "Japan." 7th, Monday, Jan. 5, 1880, Thomas Davidson, "Athens." 8th, Monday, Jan. 12, 1880, Rev. A. P. Peabody, "Russia." These lectures were carefully prepared and most of them were illustrated by lantern views, and were instructive.

In addition to the above, three courses of lectures, and one of readings of six each—free to the public—were given; the only condition was that persons desiring to attend should apply for tickets at the rooms of the Institute. The results have been most gratifying. The class of people for whom these lectures were intended has been reached, and the hall has been filled with quiet, appreciative, and attentive audiences.

1st, six lectures by L. E. BECKWITH, "*The Lives and Writings of the Prose Authors of the Age of Queen Anne*," on Thursday afternoons, beginning Nov. 6, 1879; 2nd, six lectures by CHARLES SEDGWICK MINOT, upon "*Comparative Embryology*," on Tuesday afternoons, commencing Jan. 6, 1880; 3d, six lectures by EPHRAIM EMERTON, "*The Beginnings of Modern Life*," on Wednesday afternoons, commencing March 3, 1880; Prof. HENRY KLEIN, "*French and German Readings*," on Monday afternoons, commencing Monday, Feb. 16, 1880.

In addition to the above we may include the three lectures on "*Old England*," by Rev. E. C. BOLLES, on Wednesdays, March 24, 31, and April 7, 1880, and a lecture by Rev. C. T. BROOKS, on the "*Roman Cam-*

pagna," on Monday, March 8, 1880. These were not under the direction of the Institute.

MEETINGS.—*Regular Meetings* usually on the first and third Monday evenings of each month. The following communications received and lectures delivered may be specified: Mr. *James Samuelson*, of Liverpool, on "Darwinism" and on "The Classification of Animals;" *William H. Tappan*, of Manchester, "Gold and Silver Mines and Miners," the results of his experience in California, Nevada, and Colorado; *James H. Emerton*, "Animals living at the bottom of Salem Harbor," the results of dredging during the summer of 1879; *W. S. Nevins*, "Mount Vesuvius and the ruins of Pompeii;" *D. B. Hagar*, "Spelling Reform;" *F. W. Putnam*, "The former Indians of Southern California, bearing on the origin of the Red Man in America;" *E. S. Morse*, "The influence of Early Korean Art upon Japanese Pottery;" Rev. *Edward Collyer*, of New York, "An Episode in the life of Edward Fairfax;" *Thomas H. Walker*, of Pottsville, Pa., "On Prison Discipline;" *Nathan Crosby*, of Lowell, "Essex County and Essex County Men;" Rev. *Robert C. Mills*, "Memoir of James Upton;" *James Kimball*, "On the Early manufacture of Glass in Salem," "Notes on the Richardson and Russell Families;" *Henry F. Waters*, "The Gedney and Clarke Families, of Salem, Mass.;" *William P. Upham*, "Records of the First Church at Salisbury, Mass., 1687-1754."

CONCERTS.—Under the personal direction of the curator of music five concerts have been given, with much credit to the society as musical performances. The eleventh season.

1st, Monday, Nov. 3, 1879, Mrs. G. C. Adams, Miss

Ita Welsh, Mr. W. E. G. Evans and Dr. E. C. Bullard, under the direction of Mr. J. Phippen, jr., curator of music. *2nd*, Monday, Dec. 8, 1879, Mr. W. H. Sherwood, pianist, M^{me} Luisa Cappiani, soprano, Miss Julia A. Wells, contralto, and Dr. Albion M. Dudley, tenor. *3d*, Monday, Feb. 2, 1880, by Miss Fannie Lovering, soprano, Mr. Bernhard Listemann, violin, Mr. Alex. Heindl, violoncello, Mr. J. Phippen, jr., piano-forte. *4th*, Monday, Feb. 23, 1880, Piano-forte Recital by Mr. John A. Preston, assisted by Miss Sara W. Barton, soprano. *5th*, an operetta, "The Crimson Scarf," Friday, April 9, 1880.

Mr. Joshua Phippen, jr., the Curator, gave in October three piano-forte recitals; these were quite successful and drew together cultivated audiences.

LIBRARY.—The additions to the Library for the year May, 1879—May, 1880, have been as follows:—

By Donation.

Folios.....	27
Quartos.....	94
Octavos.....	483
Duodecimos.....	415
Sexdecimos.....	301
Octodecimos.....	52
Total of bound volumes.....	1,372
Pamphlets and Serials.....	6,494
Total of Donations.....	7,866

By Exchange.

Quartos.....	10
Octavos.....	102
Duodecimos.....	10
Sexdecimos.....	2
Octodecimos.....	2
Total of bound volumes.....	126
Pamphlets and Serials.....	1,881
Total of Exchanges.....	2,007

By Purchase.

Quartos.....	1
Octavos.....	66
Duodecimos.....	50
Sexdecimos.....	23
Total of bound volumes.....	140
Pamphlets.....	32
Total of Purchases.....	172
Total of Donations.....	7,866
Total of Exchanges.....	2,007
Total by Purchase.....	172
Total of Additions.....	10,045

Of the total number of pamphlets and serials, 4,090 were pamphlets, and 4,317 were serials.

The donations to the Library for the year have been received from one hundred and eighty-six individuals and twenty-seven societies and departments of the General and State Governments. The exchanges from seven individuals, one hundred and forty-four societies and incorporate institutions, of which ninety-one are foreign; also from editors and publishers.

Donations or exchanges have been received from the following:—

	Vols.	Pam.
Abbot, Francis E., Boston, Mass.,	3	
Adams, H. B., Baltimore, Md.,		6
Adelaide, Philosophical Society,		1
Albany, N. Y. State Library,	4	8
Alnwick, Berwickshire Naturalists' Field Club,		1
American Association Advancement of Science,	1	
American Social Science Association,		1
Anagnos, M., Boston, Mass.,		1
Andrews, Mrs. James H.,		1
Andrews, Wm. P.,		44
Anthony, J. G., Estate of the late,	29	217
Appleton, Wm. Sumner,	1	
Archer, Geo. B., Brooklyn, N. Y.,		1
Augsburg, Naturhistorischer Verein,		1
Baetz, Henry, Milwaukee, Wis.,		1
Baltimore, Maryland Historical Society,		2

	Vols.	Pam.
Baltimore, Md., Peabody Institute,		1
Bancroft, Cecil F. P., Andover, Mass.,		2
Barton, Wm. G.,		5
Batavia, Bataviaasch Genootschap van Kunsten en Wetenschappen,	1	13
Batavia, Natuurkundige Vereeniging in Nederlandsch India		1
Beedham, B.,	1	
Belfast, Naturalists' Field Club,		1
Bemis, Luke, West Chester, Penn., Newspapers,		
Bergen, Bergenske Museum,	1	
Berlin, Gesellschaft Naturforschender Freunde,		1
Berlin, Verein zur Beförderung des Gartenbaues,		24
Bolles, Rev. E. C., Newspapers,	11	123
Bologna, Accademia delle Scienze,		1
Bonn, Naturhistorischer Verein der preussischen Rheinlande, und Westphalens,	4	2
Bordeaux, Académie des Sciences, Belles-Lettres et Arts,	5	
Bordeaux, Société Linnéenne,		6
Boston, American Academy of Arts and Sciences,	1	1
Boston, City of,	3	
Boston, Mass. Historical Society,	2	
Boston, Mass. Horticultural Society,		2
Boston, Mass. Institute of Technology		1
Boston, Mass. Medical Society		1
Boston, N. E. Historic and Genealogical Society,	1	5
Boston, Public Library,		16
Boston, Scientific Society,		6
Boston, Society of Natural History,	1	15
Boston, Society of Medical Improvement,	1	
Boynton, Herbert W., Boston, Mass.,	7	16
Bradlee, Rev. C. D.,		1
Braunschweig, Archiv für Anthropologie	1	3
Bremen, Naturwissenschaftlicher Verein,		1
Briggs, Miss M. E., Charts, Maps,	92	20
Bristol, Naturalists' Society,		2
Brock, R. A., Richmond, Va., Newspapers,	5	9
Brooks, Henry M.,	6	4
Brooks, W. K., Baltimore, Md.,		1
Brown, Horace,	23	37
Brunn, Naturforschender Verein,		3
Bruxelles, L'Académie Royale des Sciences des Lettres, des Beaux Arts de Belgique,	6	

	Vols.	Pam.
Bruxelles, Société Belge de Microscopie,	1	12
Bruxelles, Société Entomologique de Belgique,		12
Bruxelles, Société Malacologique de Belgique,	1	33
Buenos Aires, Sociedad Científica Argentina,		1
Buffalo, Historical Society,	1	
Buffalo, Young Men's Association,		2
Burnham, John H., Bloomington, Ill.,	1	
Butler, George,		1
Caen, L'Académie Nationale des Sciences, Arts et Belles- Lettres,	1	1
Calcutta, Geological Survey of India,	7	11
Caldwell, Augustine, Ipswich, Mass.,		5
Cambridge, Library of Harvard University,		1
Cambridge, Museum of Comparative Zoölogy,		10
Cambridge, Nuttall Ornithological Club,		4
Cambridge, Peabody Museum of American Archæology and Ethnology,	1	
Canterbury, N. Z. Philosophical Institute,		3
Case, L. P., Richmond, Ind.,		12
Cassel, Verein für Naturkunde,		1
Chandler, Gardner L.,		49
Chaney, Geo. L., Boston, Mass.,		1
Chase, Benj., Auburn, N. H.,	1	
Cherbourg, Société Nationale des Sciences Naturelles,	1	1
Chicago, Historical Society,	11	69
Christiania, Kongelige Norske Universitet,	2	3
Christiania, Videnskabs Selskabet,	3	1
Cole, Miss Caroline J.,		2
Cole, Mrs. N. D.,	3	151
Collett, John, Indianapolis, Ind.,	1	
Columbia, Mo., State University Library	1	2
Conklin, Wm. A., New York, N. Y.,		2
Cooke, Caleb,	1	
Cresson, Ezra T., Philadelphia, Penn.,	1	
Crosby, Mrs. M. K.,	415	752
Cutter, Abram E., Charlestown, Mass.,		9
Danzig, Naturforschende Gesellschaft,	1	
Darmstadt, Verein für Erdkunde,	1	
De Borre, Alf. Preudhomme, Bruxelles,		3
Dodge, Robert, New York, N. Y.,		1
Doolittle, Miss E., Troy, N. Y.,		1
Dresden, Naturwissenschaftliche Gesellschaft, "Isis,"		2
Dresden, Verein für Erdkunde,		1

	Vols.	Pam.
Dublin, Royal Irish Academy,		10
Dudley, Charles B., Altoona, Penn.,		1
Dunning, Rev. Chas. U., Lawrence, Mass.,		7
Dürkheim, Die Pollichia,		3
Edes, H. H., Charlestown, Mass.,	1	
Emden, Naturforschende Gesellschaft,		2
Emerton, James H., Newspapers,		
Emilio, Luis F., San Francisco, Cal.,		1
Emmertou, James A.,		38
Erlangen, Physikalisch-medicinische Societät,		1
Essex Agricultural Society,		1
Falmouth, Eng., Royal Cornwall Polytechnic Society,		1
Fearing, Andrew C. jr., Boston, Mass.,	1	5
Fewkes, J. Walter, Cambridge, Mass.,		1
Flanders, Rev. G. T., Lowell, Mass., Newspapers,		3
Fogg, Miss Ellen M.,	1	
Folsom, Chas. F., Boston, Mass.,	1	
Foote and Horton, Newspapers,		
Foster, W. E., Providence, R. I.,		1
Fowler, H. Gilbert, and others, Auburn, N. Y.,		2
Frankfurt, Senckenbergische naturforschende Gesellschaft,		5
Frankfurt, Zoologische Gesellschaft,		18
Freiburg, Naturforschende Gesellschaft,		1
Genève, Institut National Genevois,	2	
Genève, Société de Physique et d'Histoire Naturelle,		1
Giessen, Oberhessische Gesellschaft für Natur und Heil- künde,		1
Gillis, James A.,	32	33
Goode, G. Brown, Middletown, Conn.,		1
Goodell, A. C., jr.,	1	1
Görlitz, Naturforschende Gesellschaft,		1
Göttingen, Königliche Gesellschaft der Wissenschaften,	2	
Gould, John H., Topsfield, Mass.,	3	
Gould, Miss M. E.,	21	
Gray, Arthur F., Danversport, Mass.,		1
Green, Samuel A., Boston, Mass.,	10	482
Gulliver, Rev. John P., Andover, Mass.,		1
Halifax, Nova Scotian Institute of Natural Science,		1
Hall, E. W., Waterville, Me.,		1
Halle, Kaiserliche Leopoldinisch-Carolinische Deutsche Akademie der Naturforscher,		7
Hamburg, Naturwissenschaftlicher Verein,		3
Hamburg, Verein für Naturwissenschaftliche Unterhaltung,		1

Hannover, Naturhistorische Gesellschaft,		1
Harlem, Société Hollandaise des Sciences,	1	
Hart, Chas. Henry, Philadelphia, Penn.,		2
Hawkins, Dexter A., New York, N. Y.,		1
Hedge, F. H., jr., Lawrence, Mass.,		20
Henry, Thomas Elder, Dalkey, Ireland,		1
Hobart Town, Royal Society of Tasmania,		1
Hoffman, Mrs. Chas.,	16	
Holmes, J. C., Detroit, Mich.,	1	
Hoppin, James M., New Haven, Conn.,		1
Horton, N. A.,	5	
Hotchkiss, Miss Susan V., New Haven, Conn.,		23
Huguet-Latour, Maj., Montreal,		5
Hunt, T. F.,	40	75
Ill. State Agricultural Society,		1
Israel, Rev. Fielder, Newspapers,		50
Ives, H. P.,		532
Ives, Mrs. Wm., Newspapers,	76	36
Jenison, O. A., Lansing, Mich.,		2
Jenkins, Chas. T.,	3	
Jocelyn, Miss M. E. W.,		9
Johnson, Mrs. Samuel,	1	2
Kempf, Matthew,		1
Ketchum, Rev. Silas, Poquonock, Conn.,		3
Kidder, Frederic, Boston, Mass.,		1
Kimball, James, Newspapers,	29	47
Kimball, Mark, Chicago, Ill.,		1
Kjöbenhavn, Botanisk Tidsskrift,		6
Kjöbenhavn, Kongelige Danske Videnskabernes Selskab,		3
Knox, John Jay, Washington, D. C.,		1
Lander, Miss Elizabeth,		8
Langdell, Miss Annie,		1
Langworthy, I. P., Boston, Mass.,		138
Larned, Josephus N., Buffalo, N. Y.,		11
Lawrence, Geo. N.,		13
Lawrence, Public Library,		1
Lee, Francis H., Newspapers,	2	152
Leeds, Philosophical and Literary Society,		1
Le Mans, Société d'Agriculture, Sciences, et Arts de la Sarthe,		1
Leveridge, C. A., Dunellen, N. J.,		1
Liège, Société Royale des Sciences,	2	
Lincoln, Francis H., Boston, Mass.,		1

	Vols.	Pam.
Lincoln, Solomon, jr.,	37	86
London, Royal Society,		13
Lord, Mrs. Geo. R.,		593
Lowell, Old Residents' Historical Association,		1
Lund, Kongliga Universitetet,	2	12
Lüneburg, Naturwissenschaftlicher Verein,		1
Luxembourg, Institut Royal Grand Ducal,		1
Lyon, Société d'Agriculture, Histoire Naturelle et Arts Utiles,	1	
Lyon, Société Linnéenne,		1
Mack, Mrs. David, Belmont, Mass.,	20	182
Mack, Miss Esther C.,	1	
Mack, William,		4
Madison, Wis. Historical Society,	1	
Madrid, Observatorio,	7	
Madrid, Sociedad Española de Historia Natural,		1
Manning, R. C.,		1
Manning, Robert, Newspapers,		14
Manson, A. S., Boston, Mass.,		2
Marburg, Gesellschaft zur Beförderung der Gesammten Naturwissenschaften,		9
Marsh, O. C., New Haven, Conn.,		1
Marshall, John W., Rockport, Mass.,		1
Martindale, Isaac C.,		1
May, Calvin S., Danvers, Mass.,		1
Mecklenburg, Verein der Freunde der Naturgeschichte,		1
Meek, Henry M.,	1	
Mexico, Museo Nacional,		3
Milburn, Jos., Buffalo, N. Y.,	3	
Mills, Abraham, New York, N. Y.,		1
Mills, Rev. R. C.,	7	183
Milwaukee, Wis., Naturhistorischen Verein,		3
Montpelier, Vt., Historical Society,	1	
Montpelier, Vt., State Library,	11	1
Montreal, Canada, Geological Survey,	2	3
Morse, E. S.,	4	46
München Königlich Bayerischen Akademie der Wissen- schaften,		19
Münster, Westfälische Provinzial Verein für Wissenschaft und Kunst,		1
Nagle, John T., New York, N. Y.,		2
Nashville, Board of Health,	1	
Neuchatel, Société des Sciences Naturelles,	1	1

	Vols.	Pam.
Nevins, W. S.,	8	8
Newark, N. J., Historical Society,		1
Newhall, Miss Eliza G.,		1
New Haven, Conn., Academy of Arts and Sciences,	1	
New Haven, Yale College Library,		1
New York, Academy of Sciences,		4
New York, American Chemical Society,		1
New York, American Geographical Society,	2	4
New York, American Water Color Society,		1
New York, Chamber of Commerce,	1	
New York, Genealogical Biographical Society,		4
New York, Historical Society,		1
New York, Mercantile Library Association,		1
Nichols, The Misses,	6	
Noble, Edward H.,	39	21
Norfolk, John R.,	44	89
Oliver, Henry K.,	26	62
Orange, N. J., N. E. Society,		1
Packard, Mrs. A. S., jr.,	1	
Paine, H. D., New York, N. Y.,		3
Palfray, Chas. W., Newspapers,		143
Paris, Athenée Oriental,		1
Paris, L'Institution Ethnographique,		4
Paris, Société Américane de France,		1
Paris, Société d'Acclimatation,		16
Paris, Société d'Anthropologie,		5
Paris, Société des Etudes Historiques,		10
Peabody, John P.,		12
Peabody, Mass., Peabody Institute,		1
Peet, Rev. S. D., Clinton, Wis.,		3
Peirce, Henry B., Secretary of State, Boston, Mass.,	4	
Pennsylvania, University of Medical Department,		1
Perkins, Geo. A.,		49
Perkins, Henry, Philadelphia, Pa.,	16	65
Perry, Wm. Stevens, Davenport, Iowa,		1
Petterd, Wm. F.,	1	
Philadelphia, American Philosophical Society,		3
Philadelphia, Library Company,		2
Philadelphia, Mercantile Library Company,		1
Philadelphia, Numismatic and Antiquarian Society,		3
Philadelphia, Pennsylvania Historical Society,		5
Phillips, Henry, jr., Philadelphia, Pa.,		6
Phoenix, S. Whitney, New York, N. Y.,	3	

	Vols.	Pam.
Pickering, Mrs. Chas., Boston, Mass.,	1	1
Pickering, Miss Mary, Newspapers,	9	11
Pierce, B. O., Beverly, Mass.,	1	3
Pool, Wellington, Wenham, Mass.,		3
Poore, Ben. Perley, Washington, D. C.,		1
Pope, Miss Lydia,	1	
Porter, Robert P., Chicago, Ill.,		1
Prince, Geo. H., St. Petersburg,		1
Princeton, N. J., E. M. Museum of Geology and Archæology,		1
Procter, Joseph O., Gloucester, Mass.,		1
Providence, Rhode Island Historical Society,		1
Putnam, Rev. A. P., Brooklyn, N. Y.,		1
Putnam, F. W., Newspapers,		34
Quebec, Literary and Historical Society,		1
Regensburg, Königliche bayerische botanische Gesellschaft,	1	1
Rhees, Wm. J., Washington, D. C.,		1
Rice, Wm., Springfield, Mass.,		1
Robinson, John, Newspapers,	2	185
Ropes, N., Cincinnati, O.,	1	1
Ropes, Miss S.,	1	
Ropes, Rev. Wm. L., Andover, Mass.,		1
Sale, Chas. L., Chelsea, Mass.,	1	
Sale, John, Chelsea, Mass.,	2	3
Salem, Ladies' Centennial Committee,	6	
San Francisco, California Academy of Sciences,		1
San Francisco, Mercantile Library Association,		1
S'Gravenhage, Nederlandsche Entomologische Vereeni- ging,		3
Shepard, Jas. E., Lawrence, Mass.,	1	51
Shepard, Miss Nellie J., New York, N. Y.,		5
Silsbee, Mrs. B. H.,	204	770
Sinclair, Chas. A., Boston, Mass.,	1	
Soule, Chas. C., Boston, Mass.,	1	9
Spofford, A. R., Washington, D. C.,		1
Stearns, Robert E. C., San Francisco, Cal.,		1
Stearns, Samuel, Lawrence, Mass.,	1	2
Stearns, W. A.,	4	
Steiger, E., New York, N. Y.,		1
St. Gallen, St. Gallische Naturwissenschaftliche Gesell- schaft,		1
Stickney, Miss Cornelia,		17
Stilson, Rev. Arthur C., Ottumwa, Iowa,		1
St. Louis, Mo. Academy of Science,		1

	Vols.	Pam.
St. Louis, Mo. Public School Library,		2
Stone, Miss Mary H., Newspapers,		
St. Paul, Minnesota Historical Society,	16	15
St. Pétersburg, Académie Impériale des Sciences,		7
St. Petersburg, Imperial Botanical Garden,		1
Stroyer, Rev. Jacob,		1
Sydney, Royal Society of New South Wales,	2	
Tanaka, His Excellency Mr., Tokio, Japan,	2	2
Tasmania, Government of,	1	
Taunton, Eng., Somersetshire Archæological and Natural History Society,	1	
Taunton, Mass., Old Colony Historical Society,		1
Taunton, Mass., Public Library,		2
Taylor, Wm. B., Washington, D. C.,	1	
Tenney, Mrs. H. A., Lansing, Mich.,	1	
Thomson, Peter G., Cincinnati, O.,		1
Topeka, Kansas Historical Society,		2
Townsend, John P., New York, N. Y.,		3
Trondhjem, Kongelige Norske Videnskabers Selskab,		3
Tuttle, Chas. W., Boston, Mass.,		1
Unknown,		7
Upham, Wm. P., Newspapers,		46
Upton, Jas., Estate of the late,	19	63
Upton, Winslow, Detroit, Mich.,	1	
U. S. Bureau of Education,	2	2
U. S. Dept. of Agriculture,		1
U. S. Dept. of Interior,	2	2
U. S. Dept. of State,	1	
U. S. Engineer Dept.,	7	
U. S. Naval Observatory,	4	10
U. S. Patent Office,		53
U. S. P. O. Dept.,	1	
U. S. Treasury Dept.,	3	5
Utica, Oneida Historical Society,		1
Verrill, A. E., New Haven, Conn.,		1
Wadsworth, H. A., Lawrence, Mass.,	1	
Wallis, Al. C., Upsala,		3
Walter, Jos. R., Wilmington, Del.,		1
Walton, E. N.,		82
Washington, D. C., Smithsonian Institution,	1	9
Waters, E. Stanley,		11
Waters, J. Linton,		64
Waterville, Me., Colby University,		2

	Vols.	Pam.
Watson, Miss C. A.,	1	1
Welch, Wm. L.,	2	4
Wheatland, Miss E., Newspapers,		
Wheatland, H., Newspapers,	14	21
Wheatland, Miss Martha G.,	2	11
Whipple, Geo. M., Newspapers,	1	6
Whipple, S. K., Newburyport, Mass.,		2
White, Rev. Wm. O., Boston, Mass.,		6
Wien, K. K. Zoologisch botanische Gesellschaft,	1	
Wien, Verein zur Verbreitung Naturwissenschaftlicher Kentnisse,	1	
Wilder, Marshall P., Dorchester, Mass.,	2	5
Wilkins, Mrs. Chas.,	1	
Wilmington, Delaware Historical Society,		2
Willson, Rev. E. B.,		41
Winthrop, Robert C., Boston, Mass.,		2
Woods, Mrs. Kate T.,		146
Worcester, American Antiquarian Society,		2
Worcester, Society of Antiquity,		1
Wurzburg, Physikalisch-medicinische Gesellschaft,	1	2
Zurich, Naturforschende Gesellschaft,		4

The following have been received from editors or publishers :—

American Bookseller.	[Arts.	Lynn Reporter.	
American Journal of Science and		Musical Herald.	
American Naturalist.		Nation.	
Bangs' Catalogue.		Nature.	
Beverly, N. J. Banner.		Our Dumb Animals.	
Boston Herald.		Peabody Press.	
Canadian Entomologist.		Peabody Reporter.	
Canadian Naturalist.		Quaritch's Catalogue.	
Cape Ann Bulletin.		Review, P. H. S.	[Friend.
European Mail.	[Journal.	Sailors' Magazine and	Seamen's
Familiar Science and Fanciers'		Salem Gazette.	
Francis' Catalogue.		Salem Observer.	
Gardener's Monthly.		Salem Post.	
Ipswich Antiquarian Papers.		Salem Register.	
Lawrence American.		Turner's Public Spirit.	
Librarian.		Vox Humana.	

Zoologischer Anzeiger.

HORTICULTURE.—The annual Horticultural Exhibition opened on Tuesday, Sept. 9, 1879, and closed on Thursday evening, Sept. 11. The display was good, the flowers, ferns, pot plants and gladioli being very beautiful. There was a good show of vegetables and fruits; of the latter, the pears took the lead in the number of varieties. David Wentzell had some handsome Gravenstein apples and other fruit, also a good display of vegetables; F. H. Appleton a fine collection of the products of "Broadfield's Farm;" the Plummer Farm School some giant Ruta-bagas Mangel-wurtzel, and Stone Mason cabbage, etc.; R. B. Gifford and Samuel W. Pease some mammoth early Crawford peaches; Henry Poor some fine clusters of grapes, Hamburgs and Black Prince; T. Putnam Symonds a good cluster of Hartford Prolifics; Mr. Wilkinson, figs.

The centre of the hall was occupied with potted ferns and plants from the greenhouses of John Robinson and H. W. Putnam; Charles A. Putnam a beautiful pyramid of gladioli, at the head of the hall a handsome collection of asters, coleus, and pinks.

Among the exhibitors were the following:—Charles A. Ropes, seventy-five dishes of fruit, George Pettingell, forty-nine dishes, Aaron Nourse, thirteen, David Wentzell, twenty. Fruit from George Bowker, E. H. Noble, John Osborne, T. P. Symonds, Miss S. Ropes, Wm. H. Dennett, Wm. Mack, George D. Putnam, Ezekiel Goss, Miss E. P. Richardson, William L. Welch, Joseph Symonds, James P. Cook, Mrs. M. Wilkinson, J. W. Barton, George D. Glover, Mrs. Wm. F. Gardner, C. A. Buxton, John W. Grant. Cut flowers from Mrs. C. A. Ropes, H. W. Putnam, Mrs. C. H. Miller, Mrs. W. F. Gardner, Mrs. E. D. Kimball, Mrs. J. P. Cook, Joseph Symonds, Wm. H. Whipple, B. D. Hill. Ferns from John Robinson. Pot plants from John Robinson,

Henry Poor, Dr. H. C. Merriam, Miss Wilkinson, Mrs. J. P. Cook.

ART EXHIBITIONS.—There have been during the past year, two exhibitions by the artists and amateurs of Salem and its immediate vicinity—under the direction of the CURATOR of ART. The first was held on Wednesday, Thursday, and Friday, June 11, 12 and 13, 1879. The collection was confined, with one or two exceptions, to the works of the artists of Salem, and as such was extremely gratifying to all who are interested in æsthetic culture—comprising some fine oil paintings, beautiful sketches in water colors, charcoal, and crayons; tiles and decorated china, some charming results of the Potters' wheel, almost equalling Limoges and Faïence; a good exhibit of pottery from the Beverly establishment; some excellent mechanical drawings, original designs for oil cloths, etc., the work of the pupils of our public schools. Some fifty-three artists represented were residents of Salem, contributing over two hundred paintings and specimens of decorative art.

The following is a list of the principal pieces on exhibition:—

St. John the Baptist and other pictures, Miss Mary R. Kimball; head (oil), pencil drawings, Mrs. Horace S. Perkins; oil paintings, C. C. Redmond; Cashmere goat, Sybil (copy), Chilian milk venders, D. M. Shepard; oil paintings, J. Mackintire; rocks at Marblehead, Julia S. Warden; water colors, C. P. Brown; souvenir of Lexington, Henry Chapman; head in charcoal, water colors, storks, pottery, Miss M. M. Brooks; house, seven gables, Geo. M. White; dog's head, tile, G. B. Haskell; old Notch house, Miss Agge; pencil drawing, H. R. Stone; Beverly shore, oil pictures, pastel, Miss Louisa Lander;

wild flowers, Miss C. Grant; water colors, Miss A. Cassino; charcoal sketch, Miss J. F. Barker; violets, apple blossoms, and other pictures, Miss E. B. Gardner; crayon, storks, W. W. and F. L. Morse; drawings, Mrs. H. C. Weston; drawings by M. Kilham, A. L. Cone, E. French, B. Whitney, L. Atwood, S. S. Kimball, S. S. Kelley, J. J. Redmond, A. Porter, H. E. Carlton, C. S. Sanborn, M. L. Hill, H. G. Hale, F. L. Morse, F. Moody, H. Effie, C. S. Bliss. Oil panels, Miss E. K. Bolles; panels, Miss A. B. Holden; oil (hare), Mrs. G. P. Osgood; fuchsia, Miss S. S. Kimball; Japanese tea pot, C. K. Bolles; views in Beverly, A. E. Downes; sketches in oil, Miss H. F. Osborne; water colors, Miss L. L. A. Very; collection of pencil and pen drawings by J. H. Emerton; charcoal drawings, G. L. Chandler; six charcoal sketches, Miss S. E. Smith; collection of thirty-nine sketches in oil and charcoal, from nature and objects, by Miss S. E. Smith and pupils; three oil paintings, C. P. Brown; stork, cast from model, Miss M. E. Stanley; oil panel, charcoal and other sketches, Miss H. K. Osgood; six oil paintings, Misses Williams; oil panels, Miss Kinsman; charcoal sketches, Miss Phippen; Sorrento carving, W. W. Northend; pen and ink panel, Miss Northend; wild flowers, Miss E. D. Williams; tea pot and tray, Miss Cassino; decorated mirror frame, Miss A. Perkins; apple blossoms, Miss M. A. Cook; lilacs, pansies, (panels), horse chestnuts (oil), Miss S. E. C. Oliver; heads, oil, quick sketches, Miss H. F. Osborne; five water colors, Miss K. Peirson; four oil pictures, C. C. Redmond; thirteen oil pictures, George Newcomb; collection of seven sketches in water colors, by Chas. F. Whitney and pupils; popular and choice decorations, Misses Lander, Hood, Chadwick, Perkins, Williams, Machado, Willson, Cleveland, Smith, Silsbee, Brooks, Pratt, Osgood, King,

Phillips, Mr. G. B. Haskell, Mr. W. W. Northend; embroidery, Misses Peirson, Chadwick, Forrester, Mrs. E. S. Johnson, Mrs. J. Robinson; tiles painted in oil, pupils of Miss S. E. Smith.

The *Second Exhibition* opened on Thursday, April 29, 1880. The collection embraced some three hundred and fifty contributions, covering a wide range in variety of oil, water-color, crayon, charcoal and sepia sketches, elegant Kensington work, decorated china, plaques and panels, pottery and screens with laces and embroidery.

Among the artists whose works were represented are the following:—clay models and oil paintings, Miss L. L. A. Very; two oil paintings, Miss Ida Caller; oil painting, Miss H. F. Osborne, and one from Miss A. Machado; two paintings, ornamented plate, Miss L. B. Hood; marine view, Clark Oliver of Lynn; seven paintings, G. L. Chandler; two views, Mrs. N. A. Frye; "Low Tide," H. A. Hallett; tile and decorated china, Mrs. N. A. Frye; decorated fans, etc., Miss Charlotte Chase; two pencil studies, Miss Mary L. Webb; table cover, door panel, and fire screen, Miss C. L. Grant; oil painting, Thomas Pitman; two paintings, Helen Philbrick; do. Miss C. S. Philbrick; ornamented tile, Miss M. P. Ober; ornamented tile and china, Abby G. Pingree; two views, J. W. Averill; lace work, Mrs. H. M. Toppan; ornamented fans, Miss E. Phillips, Mrs. J. C. Lee, and Mrs. F. H. Lee; six paintings, Martha O. Barrett of Peabody; painting of flowers, Miss E. E. Barrett; water colors, Miss M. Taylor and M. A. Fornis; four oil paintings, Mrs. C. N. Clark; paintings and embroidery, Miss M. R. Stevens; charcoal drawing and pen and ink sketch, J. W. Thyng and Miss S. C. Harris; panel pictures, Mrs. George H. Jacobs; water colors and char-

coal drawings, Miss H. M. King; pen and ink drawings, Mrs. N. G. Symonds; flowers, Miss E. R. Plaisted; oil painting, Mr. C. C. Redmond; ornamented tile and panels, Miss H. L. Kimball; oil paintings, Miss S. E. Pratt; ornamented china, etc., from Miss E. W. Chadwick and Miss A. B. Holden; decorated plate, Miss A. F. Perkins; three easels, Mrs. Chas. W. Perkins; charcoal drawings, Miss E. A. Nichols; "Derby wharf," C. P. Brown; ornamented tile, Henry A. Chapman; embroidered work, Mrs. G. F. Ropes, Susie O. Currier; inlaid work, C. E. Larrabee; oil sketches, Miss H. K. Osgood; panel pictures, Mrs. G. P. Osgood; table cover, Miss M. W. Farrington; charcoal sketch, Mrs. E. S. Johnson; crayon drawing, Miss A. H. Short; landscapes on fans, Miss A. Sweetser; oil colors and plate, Miss E. T. Dike; embroidered work, Mrs. G. B. Jewett; twelve cards, Miss Lucy H. Cleveland; ornamented vases, C. A. Lawrence; crayon and pen sketches, Arthur M. Frye; panel, Miss E. F. Earle; plate, Miss Lander; lion's head from a cast, Miss A. A. Agge; lambrequin, Miss Ella W. Fisk; crayon work, Miss M. E. Dockham; blankets, Miss A. Pitman; oil painting, plates, cups and saucers, Mrs. E. S. Johnson; india ink drawings, Mrs. H. H. Davis; paintings, by Miss S. E. C. Oliver and eight of her pupils; sketch of E. I. Marine Hall, interior view, by J. H. Emerton; embroidered work, by Mrs. P. T. Pickering and Miss E. R. Pickering; oil colors, Miss E. B. Gardner, and Misses E. B. and Bessie Gardner; apple blossoms, Miss Goldthwaite; water colors, Miss M. M. Brooks; crayon portraits, C. H. Fillebrown; fans, Mrs. R. C. Manning; painting, Miss A. L. Pike; oil colors, J. S. Warden; panels, Mrs. C. W. Smith; fans and lace, Misses M. G. and E. Wheatland; apples, Annie Forrester; fancy work, Miss E. Forrester; paintings, Miss Nellie Phippen; pen and ink drawing,

fancy cards, Geo. M. White; screens and panels, Miss Holden; fans, Miss Susan E. English; water colors and fan, M. E. Stanley and Miss Ada Pitman; flowers, Mrs. Jos. Symonds; oil paintings, Misses M. E. and A. O. Williams; drawing on wood, Miss Rosie Symonds; fan, Mrs. H. S. Perkins; water color studies, Mrs. C. W. Smith; embroidery, Miss Nellie F. Clarke; bracket, S. C. Weston; water colors, G. W. Harvey of Gloucester; sofa pillow, Miss F. L. Pitman; Kensington work, Miss A. Chadwick; worsted work, Miss L. Eaton; tile and stand, Miss E. W. Chadwick; interior of Dr. Bolles' study, Kimball Bolles; two drawings, each of a locomotive, one by George H. Goodell aged nine years and the other by Henry Gardner aged seven years, were very noticeable under such circumstances. A screen by Miss Edith Rantoul; a case of fine specimens of pottery in original designs, made from Salem clay and baked in this city, by Miss Louisa Lander, occupied the centre of the hall. Miss L. has been for some time experimenting in glazes, and has discovered one which appears to be fully equal to that of the celebrated Limoges ware for depth and brilliancy of color. An imitation of Japanese ware was also good.

MUSEUM.—The specimens in Natural History including those in Ethnology and Archæology, which have been given during the year, are on deposit with the trustees of the Peabody Academy of Science, in accordance with previous arrangement. These have been reported at our meetings and have been duly acknowledged to the several donors. In addition to the above those of an historical character or possessing artistic interest have been arranged in the rooms. The following may be specified as contributors: John Robinson, Miss M. E. Briggs, Charles T.

Perkins, Miss Ravel, Miss E. B. Gardner, James Kimball, J. H. Huntington, Robert Brookhouse, Miss F. P. Ashton Snow, Edw. Stanley Waters, W. Kite, Caleb Buffum, E. C. Bolles, David Nichols, A. S. Peabody, Mrs. N. D. Cole, T. B. Nichols, H. K. Oliver.

PUBLICATIONS have been issued as heretofore,—the BULLETIN, vol. xi, and HISTORICAL COLLECTIONS, vol. xvi. The exchange list, with few exceptions, continues the same as last year.

MANUSCRIPTS from Miss Mary E. Briggs, Mrs. James Pope of Melrose, Miss Caroline R. Derby's estate, George E. Emery of Lynn, Mrs. Joseph S. Cabot, James A. Gillis, Caleb Buffum, John A. Norfolk, and T. F. Hunt.

FINANCIAL.—The Treasurer's Report exhibits the receipts and expenditures of the past year, presented in detail, but here condensed for printing.

RECEIPTS.

Balance on hand, commencement of year.....	\$254 76
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General Account.

Salem Athenæum $\frac{1}{2}$ expense, 1878—\$136 90 } " 1879 127 87 } =.....	\$264 77
Dividend and return tax.....	31 77
Assessments, 888 00; Publications, 582 67; Donations, 47 50, =	1,518 17
Lectures, Concerts, Excursions and Hall,.....	2,904 10
	\$4,718 81

Historical Fund.

Interest of investment,.....	43 50
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Natural History Fund.

Interest of investment,.....	28 00
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Davis Fund.

Interest of investment,.....	482 85
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<i>Ditmore Fund.</i>	
Interest of investment,.....	180 00
<i>Manuscript Fund.</i>	
Interest of investment,.....	40 08
<i>Ladies' Fair Fund.</i>	
Interest of investment,.....	60 00
<i>Derby Fund.</i>	
Rent of land,.....	30 00
<i>Wm. B. Howes Fund.</i>	
Received from executrix,.....	\$24,400 00
Interest received since investment,.....	395 00
	<u>24,795 00</u>
	\$30,633 00

EXPENDITURES.

<i>General Account.</i>	
Salem Athenæum, rent 1878—\$350 } “ 1879— 350 } =.....	\$700 00
Salaries, \$2,045 00; Publications, \$1,668 93 =.....	3,713 93
Fire Insurance \$60; Books 107 82 =.....	167 82
Sundry Accounts,.....	<u>368 80</u>
	4,950 55
<i>Historical Fund.</i>	
Book binding,.....	116 00
<i>Natural History Fund.</i>	
Book binding,.....	21 50
<i>Davis Fund.</i>	
Interest Warren Savings Bank [Funded].....	102 85
<i>Ditmore Fund.</i>	
F. J. Perkins, Annuity,.....	100 00
<i>Manuscript Fund.</i>	
Interest Five Cents Savings Bank [Funded].....	40 08
<i>Howes Fund.</i>	
Amount invested, per Separate Report,.....	24,496 91
Paid on account of old note.....	300 00
Balance in hands of Treasurer,.....	<u>505 11</u>
	\$30,633 00

On Friday, the 22d of June next, will occur the two hundred and fiftieth anniversary of the landing of John Winthrop on these shores. It is proposed to hold the first Field Meeting at that time. Robert S. Rantoul, Esq., has accepted an invitation to deliver the address; Miss Lucy Larcom to prepare a poem. Other gentlemen will be present and take part in the exercises of the day, and it is hoped that the occasion may be a successful commemorative event. The meeting will be held at the Pavilion on Salem Neck.

ADDITIONS TO THE LIBRARY and the several collections are constantly being made by donations and from other sources. The subject of increased accommodation for the valuable material, so fast accumulating will, ere long, require the consideration of the officers, members, and friends of the Institute; whether the present is the most suitable time to make a general effort to provide means for a fire-proof building is an important question to decide. That the society needs and ought to have such a building, no one will deny.

The TREASURER reports the payment of the generous bequest of the late Wm. B. Howes to the Institute, and makes a clear and full report of the finances.

In concluding this retrospect of the doings of the Institute during the year, it is hoped that these annual exhibits, of a steady and healthful growth in the right direction, and of a gradual advance in the promotion of its various objects, will secure the respect and good wishes of the community at home and abroad.

MONDAY, MAY 24, 1880.

MEETING this evening. The PRESIDENT in the chair.
Records read.

Mr. EDWARD A. SILSBEE gave

AN INFORMAL TALK, ON SUNDRY ARCHITECTURAL
AND ART TOPICS.

Coming from Boston there is an old house standing alone in a beautiful open spot sloping to the water. It is very old. Like the venerable men who came down to us from a former generation, this has descended from many. It is refreshing and unchanged in an ever-new land. Long may it remain. I look upon it with affection. Two centuries speak through it. It takes us back to witchcraft. Its black color the winds and weather have painted. It is flat on the ground. One massive chimney is stacked in the centre, clustered in masses and solid as the earth. It is simple as a Doric temple and not unworthy as a human record to stand beside it. The bleak centuries have howled about it and raved, life has gone on there and it has threaded its way to our time. Fire has spared it.

Bare, bald, unornamented, these houses are like monuments of the past. They plead with posterity. They seem to say to us: "Disturb us not, respect old age." It touches us with pathos. It is a voice of Pilgrim days, of Indians, of Quakers, a new continent, a worthy beginning when life was barely lodged here and struggling for a place to plant itself, and the nation was young and civilization new. The Indians saw its raising. The Pilgrim struggled with the savage. Where there are so few symbols, such a paucity of relics, and the centuries are so rare, indeed, we cannot afford to neglect them, these old

houses. They are our century flowers, as the mediæval cathedrals are Europe's and as significant, in their way, of the stern unconquerable faith that brought them here.

I insist upon them for they are memorable to the eye and to the feeling.

One catches me, as I go to the Beverly station, with its impressive bulk, and one huge chimney showing above the trees. How they reproach the puniness of later times, monoliths, no one divided their mass or exhausted their simplicity. A history and character are in them, they are gothic. Our life is raw enough, and new, and needs to be tempered by the past. Character is like geology, the world is built into it. Where we have so little old, what with constant fires, and changes, and building over and over on the same spot (it seems as if the American resented an old thing, or were ashamed of it; and inside our houses, what went our women do)? we should preserve what we have. We need it in our bustling modern life. Every appeal the past makes is refining, humanizing. It seems our buildings are tents from which we remove as easily. The American is a kind of Bedouin for shiftiness of place. The past is obliterated ruthlessly.

One cannot exaggerate their impressiveness. The puritan might come out of them to-morrow. They are the only mementoes we have. Two hundred years old! what else have we so old as that? Why, everything is five or fifty years old here at best! As expressive are they in their homely worth as the cathedrals of their enriched and stately worship. The tooth of time has gnawed at them in vain. They feast the eye and repose the mind. The slope in front is dotted with apple trees, itself a curly dot. This busy sturdy tree is just like the people, and of most expressive growth. Like a bustling housewife, it has a domestic air, like fowls—a barnyard tree. It seems to belong to the house, to be one of the family,

no tree comes so near to us ; there is thrift in every branch. It has something to do. It is not idle or lazy like the elm, for dawdling and showing off. Well, that's better than the weeping willow, a pure bit of sentimentalism in nature. The elm is another type, very varied, sometimes great and noble, more often scrawny, coarse and rank, of poor foliage and vegetable growth, not well knit, forked rather than right-angled, of a feathery plummy shape, not appropriate for tree form. It is like our thin sentimentalism and rage for effect. We are not yet knit in the fibre of maturity. The elm has not half the character of the apple.

This house of which I speak is at the entrance of Revere, to the left. Coming through the town there is another on the same side of similar age. Here is a chimney of very pretty design, terminating in two pierced or looped pinnacles with a solid member between.

The situation and the ride altogether are lovely. Hills of exquisite slope, mild declivity, as Byron says : fair, wide-stretching views open as the sky, an unoccupied country ; the ocean peering in the land ; thicketed rocks, purple crimson-stained meadows, salt grass, and the sturdiness and strength of things seize you like a passion. Salt marshes season our very bones.

There was poetry in the old scattered colonial times, though nobody has found it out. Hawthorne is too subjective, introspective to do it justice. He would deck it out in colors of romance which it will not bear. We need a Walter Scott with homelier touch, and a simple objectivity and picturesqueness. It is the ocean and the land at play which produce this coast about Boston, as if they dallied with each other, and did not know which was which, and were locked in sweet embraces. No lovelier mingling of marsh and hill exists.

These houses are apart from all other periods. They

brought the feelings which originated them with them. They root themselves in the ground from which they grow. The mass is a simple unity. Nothing has been done here so severely full of character. They are the earliest and best things in design the country possesses. Doric in simplicity, Gothic in skyey feeling, the vast slope of the roof makes a splendid line of continuity. Nothing in Europe is finer than their simple expressiveness and detached character. They grow from the soil. This was gothic feeling, to begin from the ground. It plants itself like a tree or a mountain, and clasps the soil in which it roots itself. Classic is lodged, superimposed, and has no principle of growth, nor is it so near to the earth and representative of it. They are large, at least in effect—Doric did not depend for its grandeur on size—majestic. They hold us by a spell of the imagination like early records. The imagination wants a background in which she can paint something. She is worried in the present. They are generally isolated, or were originally. They were generous of land in those days. They rule the domain, are emphatically mansions of a primitive type, boulders from a mightier past. Like the grim towers and castles of the middle age which lie like a vast skeleton over Europe, they reflect another age. The baths, the bridges, the huge amphitheatres scattered over southern Europe and along the Mediterranean are the mastodon of Rome—an extinct species. The pyramids, like mountain tombs in a desert land, are the bones of Egypt. The age they represent is gone completely as the feudal time. How finely were they in character with that great man the puritan.

It is mass makes architecture, and proportion, the arrangements of it, and the cunningness of line and parts. This great lean-to is like a hood to the house, as if it

were drawn over it to cover it, and looks marvellously comfortable smothered in storm as they must have been in those days, and away from neighbors. Like an ark, it shelters from winds and weather. They are the only tender memorials of the first primitive time we have. There are no graves. Whenever I see one of these houses I am carried back two hundred years in a twinkling, transported out of this present and landed in the dim past. Can anything else do it for us here? does anything else?

Walking the other day in North Andover, I was delighted with the design of a chimney. In that house the inmates were scalped by the Indians. An architect had stopped the previous season to sketch it. Richly clustered it was like a bit of gothic times.

A hundred years passed, the colonists were rich. Ornateness came and social charm. The houses were still flat on the ground, and the lawn came in at the window. There was much dignity preserved and breadth to the end of the century, and then character passed out. Houses were perked on underpinnings and no sense of design left. They were comfortable, but not architectural. The time of the Hancock house and Pickman house, in this town, was the first ornate period and the best. It seems to me there have never been houses here possessing more quiet dignity and charm. They were fifty feet away from the street. A rich scroll ornamented the ample doorway, and often a leaden image between. How this fascinated the boys! The massive knocker did away with the vulgar tintinabulation of bells.

The pineapple house on Brown street was my boyish landmark, and how sweet and tender that house still is, put by in a side street. In 1810 the houses were ten feet from the street, and one approached them by flaring stone

steps. Imposing as this was, it was not domestic. The old charm and rusticity of placing had gone. They still build in England on the grass and always have. Why we, who have the drier climate, should ascend into the air I cannot tell. Perhaps the snow banked against the wooden house rotted it, but they did not find this out for a hundred and fifty years. At any rate it ruins houses for beauty to place them away from the soil, the grass, the shrubs. These should nod into the windows and bower the porch, as if they belonged to the family, and the sweep of lawn and floor should be one—at least for beauty and sentiment, and I believe it can be reconciled with health. In 1800 the house of Judge Endicott was raised but it is still away from the street. A beautiful doorway and sweet house next Mr. Willson's church, down street, was raised in the same way; the roofs of these houses were full of cheer; much may be made of roofs. They are in themselves an architecture. How they disappeared afterward; nothing was made of them until these late years, when they have been overdone with no correct pure feeling. Walking along the delightful old streets of Salem, or any similar New England town, this feature, with the benignity of it, and the tender placing on the ground, charm one. How vulgar the later building, gingerbread ornaments, bed-post details and designs turned out by the lathe!

Until, in these late years, education is ridding us of this display of cheap commonplace; but now the architect runs wild with us, as formerly the builder. Breadth, proportion, repose, we rarely see it now as it prevailed to 1800—simple dignity. This has given way to such countless variety of styles that I hold it a reproach to architecture, that it never does anything of its own but constantly reproduces, imitates, selects. In their day the styles suf-

ficed, and expressed something, the feelings of the occupants and the time. Now we are Chinese or Peruvians in the same breath. Architecture cannot be a living art when it chooses so widely. They could not build but as they did in the good periods. They knew nothing better, or other.

Salem was fortunate in possessing one architect of great merit at a later date. Macintire had the genius of the renaissance. His designs are most refined and delicate. He has left the best church of the steeple spire order that can be seen in New England. This is the one in Chestnut street. The fine steps have been taken away and the door injured. A charming design was the house of Mr. Rogers, opposite the market. The upper part is still beautiful. The Assembly house in Federal street is another. The old common gates were very stately, and showed true style.

There was a period of Doric taste, Tuscan Doric, which has left admirably proportioned roofs and noble porches. The Stearns house has one, and there is one in Chestnut street. These are the sifted results of centuries of architectural feeling. Wherever one has attempted to replace them with other designs or proportions one has made a sad bungling. These old styles, if once meddled with, are ruined. Such was the case with the Boardman house, built by my grandfather, opposite the eastern gate of the common, once excellent for porches and proportion. The proportion of the roof remains. General Washington was astonished, on his visit to Salem, that a sea captain could build such a house. In those primitive days it was the largest around the mall.

As an illustration of the styles, and the contrast they present, the imaginative significance of them, it is instructive to study two late churches in Boston, the one

in Arlington street and the other in Berkeley. The one is composite, the other gothic. The Arlington street is a very poor production in its own style, has no just proportion nor elegance and is a clumsy copy of St. Martin's In The Fields, in Trafalgar Square, London. The steeple spire can never have much inspiration in it though it may have elegance. Spires are gothic. They are the fine fruit of its aspiration. Gothic is a thirst, a climbing, an aspiration. Great interiors, with ribbed and bended roofs, are like hands folded in prayer, and stretched to heaven. Every moulding is an emotion, pinnacles are ecstasy, niches are psalms, shafts are anthems, stained glass the heaven itself, sunset or the dawn. Gothic is like soul in style, classic mind; the one poetry, the other prose; gothic feeling, classic thought. One is of heaven, the other earth. However broken, the snatches of it enchant, like strains of music. As a natural vegetation, it entwines, shoots, and embraces. It is mysterious, exuberant, unending. It is like a monument to nature built by man. In no other style has the spire a *raison d'être*. Others are piled up, imposing, but not inspired. Grace, majesty, proportion, design, do not supply this motive of soaring, vaulting growth, and piercing exultation. They are cold. Gothic is as multitudinous as nature. She might have done it herself. It is like three centuries of Shakespeare. In its greatness, all men's lives were in it, and all their lives. Other styles eke out their outlines with clumsy expedients, urns, and vases, and knobs. Gothic produces every part out of every other part, naturally, as nature works. It is evolved, integral, fused. In other styles ornaments are lodged, attached, in this they grow. One is constructed, the other lives. Composite styles miss the inevitable, as Wordsworth says, Goethe's lines do. They have descended from ancient times, and nothing akin anciently

had place ; no feelings of mystery strove and struggled for expression, nor were they possessed with the passion of the infinite, which is the principle of gothic. Faith did not flame in the air. The earth sufficed, and they symbolized it. All notes of action seem natural to gothic. The members multiply, cluster, divide ; they mantle, reach, rush, throng and cling upward. It was the literature of the middle age. The people read in it, as in a book ; their sanctuary and catechism. Religion is in every turn, and twist, and point, and pinnacle ; and so was life. It is fervid, swift, kindling, and has well been called frozen music. It has a unity like faith itself. It is embodied religion. Nothing touches us like this ecstasy and prayer that it is—a message sent to heaven, pointing to the other world—so impassioned, it cleaves space as if it would get away from the earth, and longed for some other sphere—its sempiternal heritage. Its coignes of vantage ensnare the mind.

Now all this is seen in Europe when we study cathedrals, and compare them with the studied styles. One comes with this impression, and applies it to the opposite orders here. There is sufficient ground for the distinction and significance, or lack of it, in styles, if we compare the two churches named, which constantly catch the eye every time we cross the open spaces in Boston ; and they force themselves upon the attention. The evening sky makes all beautiful. A radiant atmosphere spreads, and they all point into space, or lift themselves, with one common sentiment of serenity and adoration. In cooler moments we observe their excellences and defects. Campaniles have added a new feature to the city, and the Venitian architect has enriched it with the poetry of styles. It combines the repose of classic with the warmth of gothic or flowingness, the life and verticalness. All is curve, yet

it is playful, elegant, graceful and not thin. Balanced, it touches with sweetness and rhyme the prose of other orders. They seem cold beside it. Surely no other façades crowding a city ever held one as Venice does. One wanders in it as in an enchanting place, lifting itself above the water, as it does, where everything enriches by contrast, as if it had been created above the sea by the curve and impulse of its wave, restrained and fixed in laws of beauty as nature herself works. We are never tired there of the order. It is too beautiful to satiate, and it is elegantly distributed and changed. Infallible laws governed Gothic, as they did Greek, and both partook of nature at the source, each in its own kind. Every time one passes a Venetian front here, one is stirred, a strain comes over one, and the eye kindles, and the feeling is touched. This is the case when we come upon that angle by the common where the group of the Boylston house and the next building stands, and compare it with all other styles; or simply view a touch of the incomparable arch and grouping wherever it is applied, and used tolerably. Like Venetian painting, it was the sole creation of Venice, and it has never been surpassed. The wondrous city created two things, its architecture and its painting, and it left literature aside. It was like a radiant bridge from antiquity to the present time, impinging on the East. The works of Mr. Cummings, adapted here, not always equal, have planted this noble style, and they are the most imposing civic things in the city it seems to me.

OF INTERIORS: — They are ingenious and overcharged, as in literature Tennyson is oversweet, Browning overrough, Emerson overpithy. The great style has repose. *Le défaut de ses qualités*, as the French say. We are suffocated with bric-a-brac, tortured into picturesqueness. Gothic has been let loose in the house. We sigh for the

relief of older styles before mankind became graphic. Beautiful objects, beautiful ornaments should be kept in place. It is an *embarras* to have too much even of a good thing, to live in a museum. We cheapen all these things by heaping them, and displaying them. The eye is wearied, the taste surfeited. To live with such distractions is a mistake akin to being always in romantic spots, picturesque situations, the sublime, rough, wild or savage. It is not for constant contemplation. The mind wants simplicity to dwell with, and nature in her every-day, her morning gown. Grassy sweeps and turfy banks, trees, flowers, shrubbery, and quiet dells and nooks. It strains at the sublime and unusual, and is not always in a mood of the picturesque. On the Beverly shore I prefer the smooth places with roughness near. Nothing gives such quiet satisfaction as grass, lawns, shrubs, habitableness. A barberry bush is well enough, only not to live in. They pall upon us. They are not for every day, and at all hours. There is delightful invention, the architect, the decorator have all been at work. We are not left alone a moment. They are alive all about us. It is charming, what they have done to beguile monotony of its dulness, tameness of its insipidity, and to stimulate surprise. They besiege us, they must show off their hand. This will settle down at last to some recognized styles having unity and principle in them and repose. Now all is heterogeneous, one almost says, mongrel, hybrid—ornament at all hazards. The world never saw such a chaos. Whims are flying about like flies. Yet it is very delightful in parts, and the freshness and independence are hopeful.

OF MONUMENTS in Boston, this may be said, the largest and most important is the cheapest commonplace. Borrowed from a poor and late clerical monument at Rome it worsens that. The figures are meagre, not monumental ;

the ornament—eagles, bands, wreaths—of the stalest. It is a splendid position. What an opportunity lost! The surmounting figure cannot move for her clothes. The artist's Glover is better and alive, and has force, mastery. So the horticultural hall decorative statues are good, being adapted from antiquity. The other figures in the town are feeble enough, or tame—Sumner, Quincy, Webster, Everett. If Lincoln is better, the group lacks composition and design. The Washington monument is a tame-trotting, picture-book horse and man. There should be in all monuments a certain fire, force of character and inspiration. It is like writing an ode, you cannot fail, you are lost. If you attempt the heroic you must be equal to it. A monument is a lyric, a commemoration, a poem; there must be some touch of enthusiasm in it to make it a success. It is an ambitious effort. It strikes a high key, the art should respond. Simple representation and historic portrait, unless done with cunningest hand, will not do. The best things in this kind are the two statues, one of Sophocles and one unknown, in the Naples and Lateran museums, and the Demosthenes (casts are in the athenæum), and Frederick the Great at Berlin. These have that intense seizing of character with heroic feeling, like Titian's portraits. The same passion is lacking in this monument of Washington, that we miss in poetry here. Of Milton's three words, two are wanting, sensuous, passionate. The pedestal is thin. It has that fatal quality of commonplace. Yet it is vigorous in parts, far removed from vulgarity, and a dignified work. As to portrait statues, the worst I have seen, are the buckram men in bronze put up outside of Westminster Abbey. We cannot have genius every day, and sculpture is scarcely a living art in any representative or vital sense. It only deals in portraiture with any success. The command of the figure

is rare. Ward seems to have it, but he strikes us as lacking refinement and ideality. It is a good piece of work of his above the ether monument. Instructive it is to compare this monument with the one on the common; as instructive as the two churches are in sight from these points of view, the Arlington, the Berkeley street; in each case to show excellence or defect of style. The ether monument seems to want freedom, and is technical, as the other lacks all education and design. No one can pass the two churches without seeing the grace and feeling of the one, and the parody the other is of all grace and proportion. It simply mocks the gothic with ugly parallels.

Among the old things, are the wooden images, which used to be in Salem, elegant, rustic, graceful objects. One remains in the Derby house grounds nearly opposite the City Hall. These appear to have been Italian in sentiment, and are like much existing in Italy now, and which always has existed there since the Roman times, and the Greek and Etruscan before it. That country loves objects out of doors and against the air, and one said once there were more statues than men at Rome. They are dug up as we dig arrowheads here, the relics of the former inhabitants. There is iron work too, and excellent old fences of stately and ornamental design. These are the lost styles. They have a true interest as the old furniture has. How much they spoke to their time and represented it! How much elegance there was in them, refinement and taste! Stately often, imposing and chaste. Wainscoting, panels, cornice-work, beadings, majestic sweeping staircases, and landings like a palace, embayed windows, window seats, balusters, scrolled, of fairy lightness, and rails that curved, descended, crooked and twined upon them-

selves. In Mr. Peabody's house in Danvers, we cannot believe we are in this century. It is a bit of colonial England, and still transports us to the mother country. Later, style was lost utterly for fifty years.

There is good iron work down Central street, and in front of Dr. Cate's house. One fine fence remains by the Osgood house in South Salem. Posts remain elsewhere of beautiful design as at the Baldwin house. How important these things are, and what effect they have upon the imagination, especially upon childhood, let us measure by picture books. They are a living picture book. Micklefield's Indian, and the image over the Pickman house door, the wooden images on the Crowninshield farm in Danvers, and the grotesque carving over the engine house there, the carving on the upper common gate, the pine apple with its bright imitative color, the figures in the Derby-houses' grounds, and the carvings on Macintire's works,—slender in amount as they all were, were to a Salem boy forty years ago what St. Mary's Redcliffe was to Chatterton, they created him and enriched his imagination. Hawthorne need not have complained of Salem, nor James for him. Had he been born in Lynn, Lowell, or some other fiercely new American town, he never would have been Hawthorne. Essex county, out of the vortex, and from its old stock, history and wealth, has had more genius than any other county; and Salem at this hour with this Institute, and in some measure through it, has more the ripeness and tone of the old world,—maturity, ease, taste and comfort, and leisure and repose, and what they bring, — than any other town.

Boston now is getting filled with open air statues and monumental work, which, to the boy, will inspire him with historic suggestion and imaginative delight. Our hitherto bare life of the last half century is getting artistical.

Coincident with this disappearance of styles inside and out, was a decay of manners as a fine art. We shall have to study them anew. The younger sort have all their own way, the older are not seen.

A pretty style of house and ground was the old end-wise house. Of these there were charming examples, Judge White's, Mr. Bancroft's, Dr. Prince's and many others. How sweet the grounds showed in front of them. They were frank, and let the public into all the family enjoyment and confidence. Many still remain, and they are among the distinctive features of old towns.

THE PORCHES are among the sweetest bits we can see now, where they have not been altered or replaced, when they are sure to be ruined. Not one has been added in modern times that is not crude and shapeless. You might as well attempt to alter an old table or chair of the good periods, and give it another crook or design than what it has. The sense was lost, and we wandered in a sterile vacancy of design, and of heaviness and enrichment without beauty, both as to house fronts and porches, window headings, fences, roofs, doorways, and especially furniture, for fifty years. Two old brick houses interest one. One entertained Washington, (the late Mrs. Saunders remembered being in the cotillion with him there), the house of Dr. Fiske. Here the ground or base moulding told an architect the other day it was the same period as one of the early halls at Harvard College. The old Derby brick house in Derby street is more like a bit of old England than anything in the town. Beverly has charming bits. The refinement of the old manner, the educated ornament delights one precisely as old furniture does. It has an elegance, a chasteness, a sobriety, a salience and reserve, not being overloaded, a variety withal, that hold one by a kind of spell of interest and fascination. The horror of later things in wood had not arrived. We have been overrun

with the cheapest of quack styles, as the country generally has. It would not do to specify them. Upper Essex street, Federal street, Beverly, South Salem have much to show. The good house of Mr. Cox built early in this period and interregnum, Mr. Lee's, and one lately put up at the corner of Norman street, are a protest and relief. Certainly it is earnestly to be desired that we should do better in wood than we have done. Meantime, in this town, the old houses quiet the very feeling, and appeal pathetically against the intervening time. The house of Mr. W. H. Foster has charming steps in threes, and excellent old finishing touches, with extreme simplicity. One might enumerate many a refined bit and shy old house in Salem and Beverly. There is a noble one as you go to the cove, in the latter town, of square shape, ample dimensions and double porches, and where one is reconciled to white paint, and beside it a dear old veteran that wants to go into the ground, and has almost gone there, it is so old, and they both are expressive, to a degree that shames modern structure. They stand coquetting with each other and are monuments of centuries, impressive as time itself, and eloquent with character, and mass and sentiment. Hawthorne might write a romance about them. They are worth a whole modern town.

THE JAPANESE, half-women in organization, have the sensibilities of Eastern races to color, and the harmony. Cashmere shawls, Chinese porcelain, illustrate this. An island like England, of about the size and population, on the edge of a great ocean, in the temperate zone, at the same distance from the equator on the other half of the globe, and bordering a continent; feudal too, with beautiful nature, and the same love of gardening, there is the same sensibility in their little art as in the English poets'. Their delicate feminine hands have a perfect manipulation.

Emerson says, in his *Humble Bee*

“All was picture as he passed.”

This is true of the Japanese. They get a subject out of nothing. In a collection of ivories at the Burlington Club, there seemed an epitome of human life: nature feeling, art feeling, poetic feeling, the grotesque, gothic creativeness, the sentiment of Dutch pictures, incident,—a world in little, a Shakespearian range. We have only to examine fans to see their sensibilities to the impression. In my last talk with Mr. Hunt, I saw how much he was drawn to Japanese, and in the beautiful Gloucester harbor I think I see the influence of it. They have naturalistic feeling as the Greeks had design. They have changed ornamentation everywhere. A friend of mine, who has a collection gathered on the principle of poetic motive, tells me, he never takes a walk, but he sees grasses and weeds, and a hundred aspects of nature, Japanese have taught him. Whether this virginal island will now be destroyed for *naïveté* of motive and unspoilt feelings, remains to be seen. The Greeks when they lost their great art were conquered. The Japanese are springing on.

Since I was last here we have lost Mr. Very. A genius, as rare as Hawthorne, suddenly stopped in his early years. It is the quality of his work that transmits a man. The only analogue I can find for Very is Fra Angelico. No two men were ever purer-hearted, and so consecrated. It made their genius. Fra Angelico is worth whole ages afterward. Corot illustrates this. He outweighs the whole American landscape. Gray is the truest poet of the last century. How little he wrote! Very may remind us of Blake too. Spontaneity is the secret of genius. In Wendell Phillips' speeches, in Miss Preston's translation of Mirèio is this quality. It is as easy as breathing. The old diction is very threadbare.

Emerson in avoiding it rushes into the other extreme. It is an inspiration from temperament as Hunt's was. Fra Angelico was very limited, but he was divine. This golden thread of passion makes Parson's verse distinctive, and gives him grace—a quality we have not had. Religious poetry is usually valueless as literature. The didactic is not an inspiration in art. There are two or three notes of earnest poetry in New England by women. It is natural the genius of New England should take that turn, and that it should be through women. After fifty years who has grown? Shelley, because he lends you his soul to see with, and his art was equal. As the soul writes through Very, nature wrote through Shelley. If it is the west wind he writes about, the west wind writes it. If Very describes the columbine, its slender grace and tremulous nature are in the verse. He seems to me to be worth bushels of American poetry. When I was entering the bay and Dean Stanley was aboard, I pointed out Salem to him and told him I would give him the volume, now out of print, of his early poems; so I did when I got back to England. Mr. Very himself gave me the book with his name in it. Two days after we landed, Mr. Very was present at the hall. I crowded into the gallery at the last moment, and could see him on the floor of the house. I noticed his very intellectual head. There was no such head in the audience. So high and such fine lines. His things must grow. He is a quiet genius but unique, the least indebted, the most underived. American poetry is a dreary second-rate, it has struck out no new note. But such poetry, the pure effluence of the spirit, never can be popular, or even comprehended or felt by the many. I think of Daniels' lines quoted by Coleridge:

“Unless, above himself, erect himself he can,
How poor a thing is man!”

NOTE.—Rev. JONES VERY died at his residence on Federal Street, Salem, on Saturday morning, May 8, 1880, after an illness of a fortnight.

He was the son of Capt. Jones and Lydia (Very) Very, and was born in Salem, Aug. 28, 1813. In 1823 and 4, he accompanied his father on the last two voyages of the latter to Europe. He graduated at Harvard University in the class of 1836, with high honors, and was a Greek tutor in that Institution in 1836-8.

The following extracts from two letters may appropriately be inserted in this connection. One from Mr. Very to Mr. Conrad incidentally gives a clew to his own college habits. He writes:—

“He (Chisholm) was a member with Thomas Barnard West, of Salem, and myself, of a small society for religious improvement, which held meetings once a week, during most of my college course. I remember these meetings with great satisfaction as hours well and properly spent; and I doubt not that they were so remembered by all who participated in them.”

The other by one of his former pupils, received by the family on the day of his burial, shows the estimation in which he was held as an instructor, who writes:—

“You were my teacher of Greek in 1837-8, and your manner of instructing made a favorable impression on my mind, and produced a leaning to that language which still lasts. You were unwearied in drawing our attention to tenses and making us translate literally—two important points in learning languages of which however Mr. F * * * * quite lost sight. The charm with which you surrounded Greek vanished from Harvard with you. You felt the spirit of the Greek people, and were ready to communicate it to such as had ears to hear.” * * *

He studied for the ministry and was approbated as a preacher in 1843, though never ordained over a society or settled as a pastor, he had occasionally performed the clerical duties.

He had acquired distinction as a poet, especially as a writer of sonnets and occasional pieces, some of which were contributed to the papers and periodicals. In 1839 he published a volume of Essays and Poems, which has been considered a book of great merit. Griswold, in his Poets and Poetry of America, says, “His Essays are fine specimens of learned and sympathetic criticisms; and his sonnets and other pieces of verse are chaste, simple and poetical.” His deceased brother, the Rev. Washington Very, and his sister, L. L. A. Very, shared his poetical talent.

He was of a quiet, reflecting and sedate turn of mind, and, though retiring, was very affable and companionable. He early gave himself up to a religious enthusiasm, which so possessed him that he left Cambridge and returned to Salem, where he had since lived in retire-

ment, writing sonnets when the mood seized him, but taking no part in public life.

The family is traced back to *Bridget Very*,¹ who came from England with her two sons and a daughter, and who was a member of the First Church in Salem in 1648. She and her son Samuel² lived on the north side of Cedar Pond, near the Danvers almshouse, where they owned a large tract of land, and where her descendants resided for a century or more. Many of them removed to Salem and became ship-masters.

In the first volume of the Historical Collections of the Institute, is an interesting account of a genealogical ramble by the subject of this notice. He says: "that it [the land] bore the name of the Very lot. I was shown by an aged man, the cellar where the first house stood. No house had been there since his recollection, but the stones were still there overrun with blackberry vines. There too was the well, covered now by a stone. A few old moss-covered apple trees in the midst of a new growth of oaks and pines showed where, two centuries ago, the strong hands and brave hearts of the early settlers had cleared the land and made them a home."

Samuel Very,² born in England about 1619, married Alice, dau. of John Woodis, Woodhouse or Woodice, had:

Benjamin Very,³ married Jemima, dau. of Joseph Newhall, of Lynn; had:

Isaac Very,⁴ born July 30, 1715; married Elizabeth Giles in 1736; a corporal under Col. Ichabod Plaisted in 1756; died at Sandy Hook in the army, 1778; had sons Isaac and Samuel.

Samuel Very,⁵ born in Salem, Dec. 10, 1755; married in 1776, Hannah Putney. She died Feb. 4, 1799. He was a master and owner of a vessel, but kept a store many years in Salem at the corner of Essex and Boston streets; died in 1824, aged 69; had: Lydia, born June 14, 1792; married her cousin Jones Very, and was the mother of the subject of this notice.

Isaac Very,⁵ born in Salem 1745; married for his 3d wife, Rachel Jones, of Charlton. He resided some years in Charlton and Spencer, the latter part of his life in Salem; was master of a vessel and an officer of the Customs, Salem. He died in 1831, aged 86; had:

Jones Very,⁶ born in Spencer, Mass., Nov. 17, 1790, and followed the seas from early life. As a shipmaster he sailed in the employ of the Hon. William Gray from 1817 to 1821 in the Brig Concord; from 1821 to September, 1824 in the barque Aurelia. He married Feb. 13, 1813, his cousin Lydia Very, above mentioned. He resided at the corner of Essex and Boston streets, in Salem. He died Dec. 22, 1824.

[Ed.]

REGULAR MEETING, MONDAY, JUNE 21, 1880.

MEETING this evening at 8 o'clock. The PRESIDENT in the chair. Records read. Donations and correspondence announced.

The PRESIDENT referred to the sudden and unexpected death of an associate member, Mr. Caleb Cooke, which occurred at his residence in this city on Saturday evening, June 5, 1880. His disease was typhoid fever, and it terminated fatally after a confinement to the house of a few days.

The PRESIDENT then alluded briefly to some incidents in the life of Mr. Cooke, his interest in scientific pursuits, his labors in the cause of science and general culture, and his acts of benevolence so freely and cheerfully done.

Mr. Cooke was the son of William and Mary (Fogg) Cooke, and was born in Salem, Feb'y 5, 1836. His father was a mariner and for several years was an officer on board of vessels engaged in the West African trade, and died in California when the son was in his boyhood. He was educated in our public schools and commenced his active life, a clerk in the bookstore of the late Henry Whipple.

Continuing in that situation for a short time, he retired, and after spending about one year with Mr. George F. Read, in the study of the languages, especially the Latin, he devoted himself principally to the pursuit of Natural History which had long been his desire and inclination.

He was elected a resident member of the Essex Institute May 11, 1853, and was connected with that Institution until his decease, and for more than twenty-one years of this time he held some official position or a membership

on some important committee. For several years he was a pupil of Agassiz, and under his tuition pursued his studies with a class of young men who have since distinguished themselves in zoölogical and geological science.

In 1859 he went to Para, South America, and subsequently to Zanzibar and Madagascar; on the latter voyage, sailing in the barque Persia, from Salem, Nov. 5, 1860 and remaining for several years on the eastern coast of Africa, collecting specimens for the Museum of Comparative Zoölogy, Cambridge. He was compelled to leave this field of his labors on account of sickness from the African fever, but almost recovered his health during his passage home. While he was absent, Prof. Agassiz and Senator Sumner procured him the appointment of U. S. Consul at Mozambique, but the Commission passed him in transit and he never acted under it, although his name was borne upon the rolls for several years.

From the organization of the Peabody Academy of Science in 1867, until his death, he was an assistant, and one of the Curators of the Museum under its charge.

He was a member of the American Association for the Advancement of Science and also of the Boston Society of Natural History.

In 1875 he assisted Dr. G. M. Levette, of the State Geological Survey of Indiana, in a hydrographic survey of a dozen or more of the lakes in the northern part of that State, where his experience in the collecting and preservation of specimens of natural history, and in seining and dredging, was of great value.

He also became greatly interested in the work of the Salem Fraternity, organized in the spring of 1869, and was active in the establishment of its library and reading room, becoming chairman of the committees of those departments, and devoting himself constantly and earnestly to the welfare of that institution. He possessed many

admirable traits of character. No one was more ready to communicate information, or take more pains to confer a favor than he. He was a useful man in the line of his specialties.

Rev. E. B. WILLSON spoke in the highest terms of Mr. Cooke's labors in behalf of the Institute and of the Fraternity, and also of his many marked personal characteristics; frank, hating cant, impatient of conventionalities, sunny tempered by nature, but quick and of variable moods, he scorned wordy goodness, and called for deeds before his confidence was to be had. His valuable services in the management of the Salem Fraternity were particularly alluded to by Mr. Willson. Almost from the beginning his hand was in it, and as the zeal of others slackened, he only gave to it his more constant care. Every day he devoted hours to it, especially during the week-day evenings; these were the leisure hours from other pursuits which were his main business. His heart was in the work. Something new to be tried was always seething in his brain; more library room; more books; more periodicals, papers and pictures; another room for women, more workers on committees; more work for the workers; but he went first himself, and staid last. On the steady band of workers that has carried on the Salem Fraternity for these eleven years, his death falls like a momentary faintness which darkens the eyes to the way before them.

Mr. JOHN ROBINSON spoke of the long personal friendship which had existed between Mr. Cooke and himself, and particularly dwelt upon his pleasant and kindly ways, always seeking to do a favor before it could be asked of him. He spoke of his fondness for children, and the ease with which he made them familiar with him, and related an incident which occurred only one week before Mr. Cooke's death.

It was customary every year for them to go to a certain choice locality where the *Arethusa* was particularly abundant, to collect the flowers and astonish their friends with a profusion of the blossoms of this beautiful and usually scarce plant. The trip was generally made on foot, but as the distance was nearly ten miles and it was desired to return before noon of the day selected, a carryall was obtained, an early start made, and two little girls taken to fill the spare seats. The flowers were found in great abundance and in a few hours the party were on their way home, Mr. Cooke and both little girls on the front seat. All the way the children were particularly merry, and Mr. Cooke merrier if possible than they. All sung, laughed, and drove by turns, and when nearly in town, it became necessary to quiet the fun lest it should too much surprise the sober passers-by. Mr. Cooke never was happier, and had not for two months seemed so well. The same *Arethusas* were not all faded the day he was laid in his grave.

Mr. Robinson spoke of the public loss caused by Mr. Cooke's death, and said that his long familiarity with the specimens and customs at the Museum of the Academy, would render it impossible to fill his place as he left it. But beyond this, Mr. Robinson said he felt the personal loss to be greater, for Mr. Cooke was one upon whom he always felt able to call at any and all times for favors or assistance of any sort, with the assurance of an immediate and cheerful response.

Dr. GEORGE A. PERKINS said, that his personal recollections of Mr. Cooke were of the pleasantest kind, his eminent fitness for the position he was called to fill had often impressed itself upon him, and it would be safe to say that no specimen or specimens, in any of the collec-

tions of our scientific societies, escaped his memory or care, and all could be produced by him at a moment's notice. His uniform good nature under trying circumstances, and the pleasure he appeared to take in furnishing any desired information, made it exceedingly pleasant, to recall the memory of the visits, the speaker had made to the rooms of the Peabody Academy of Science, during the period of his official connection with that institution.

Mr. T. F. HUNT also made appropriate remarks regarding Mr. Cooke, his life and work, and on his motion

Voted, That the President, Rev. E. B. Willson, and Mr. John Robinson be appointed a Committee to prepare suitable resolutions on the death of Mr. Cooke—the same to be entered upon the Records of the Institute, and a copy to be sent to the family of the deceased.

The following PREAMBLE and RESOLUTION were reported by the committee, and recorded in conformity to the above vote :

Whereas, The recent sudden decease of an associate member, Mr. Caleb Cooke, who had been interested in scientific studies from his early youth, and an active member of the Institute since May, 1853, and for more than twenty-one years holding some official position or a membership on some important committee, requires from the Institute a grateful acknowledgment of his valuable services so cheerfully and freely given, at all times, in the promotion of the objects of its organization.

Resolved, That the Essex Institute desires to place upon record this testimonial of respect to the memory of its late associate, whose ardent zeal and indefatigable labors in scientific research, and especially in various acts of benevolence and general culture in this community, have secured the esteem and respect of all, and will cause his name to be long remembered in this, his native city.

BULLETIN

OF THE

ESSEX INSTITUTE.

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NOTES ON THE FLORA OF ESSEX COUNTY, MASSACHUSETTS, WITH SKETCHES OF THE EARLY BOTANISTS, AND A LIST OF THE PUBLICATIONS ON THESE SUBJECTS.

BY JOHN ROBINSON.

ESSEX County offers to the botanist a field attractive and interesting in many ways. The open country, deep woods, and numerous swamps contain the usual number of species found in such localities, while a large river, the Merrimac, furnishes a valley in which grow many plants not elsewhere found in the county. There are upwards of fifty ponds, from four to four hundred acres in extent, rich in water plants and subaquatics. Though there is no considerable hill or mountainous district, it is sufficiently far north to have several representatives of higher latitudes and even a few alpine and sub-alpine species in the flora.

Along the seashore is found an abundance of plants peculiar to the region of salt-water marshes and beaches, while in the ocean and inlets grow about one hundred and

fifty species of algæ. These last named collecting grounds offer an opportunity to study, from fresh specimens, classes of plants from which the inland botanist is almost wholly debarred.

The land plants of the county belong decidedly to the northern flora although not so arctic in their character as the lichens and algæ. There is an almost total absence of many species common from Cape Cod southward and often found just south of Boston. In contrast to this the *Magnolia glauca* is still quite abundant at Gloucester, but not found again north of New Jersey. At Cape Ann is the southern limit of the little *Sagina nodosa*, and there also is found *Potentilla tridentata*, familiar at the Isle of Shoals and on Mt. Washington. Essex County seems also to be the southern limit, for this region, of *Pinus resinosa* (Red Pine), *Abies nigra* (Black Spruce), *Vaccinium Vitis-Idæa*, *Viola rotundifolia*, etc., as it is the northern limit of *Cupressus thyoides* (White Cedar), *Quercus prinoides* (Chinquapin Oak), *Polygonum Caryi*, *Draba Caroliniana*, *Lygodium palmatum* (Climbing Fern), and others. At Boxford is what has proved thus far to be the only New England station for *Salix candida*, and another bog willow, *Salix myrtilloides*, is occasionally met with. At Andover a locality for *Calamagrostis Pickeringii* was discovered in the summer of 1879; this species has only been known before at the White Mountains. Among the sedges and grasses, plants too frequently neglected will be found, many not heretofore supposed to grow in the county, and a careful comparison of this list with our botanies will show that the range of many species has been extended. Although much careful work has been done there yet remains much to be accomplished; for, besides the few species that may be added to the list of flowering plants, there are many species of lichens and

mosses not thus far collected, and the fungi and fresh-water algæ are purposely omitted altogether. The phanerogams and vascular cryptogams are quite fully studied, and to the Characeæ and marine algæ but comparatively few additions may be expected.

The early settlement of the county renders this a particularly favorable region for the observation of introduced plants. From the earliest settlement to the present time, foreign species have continued to arrive, many of which, like the early colonists, came with the evident intention of remaining; for, as the genista, barberry, white-weed and buttercups show, they flourish here and increase to an extent which it would be difficult for them to exceed elsewhere. The study of these introduced plants might be called historical botany and should not be confounded with the study of the natural distribution and changes of plants. The early colonists came to establish a home: they did not come for gold, diamonds, or lead even, and in coming severed old home-ties and connections. That the fruit and other vegetable productions of the new land were among the first things to which attention was given, the records of early writers amply testify. We are apt to consider the men of two hundred and fifty years ago as a stern company; yet, besides the fruits and plants which might possess economic or medicinal value, this latter use being ever uppermost in the minds of botanical explorers of that day, they did not overlook the curious or the beautiful.

The earlier accounts tell of the gardens that were almost immediately established upon the settlement of the country, and invoices of the articles to be sent to the colonists from the managers in Europe contain such things as the seeds of grains, stone fruits, quince, apple, pear, woadwax, barberry, etc. Besides these, living plants

must have been sent out from Europe, as is shown by the record of "Our Ancient Pear Trees" (Robert Manning in Proc. Am. Pom. Soc., 1875).

Some of these plants purposely introduced have failed to prove of use, or their time of usefulness has gone by, and they have been suffered to run wild, and at the same time a hundred others have like "stowaways" come uninvited. They have been introduced among the seeds of useful plants, in packing material, and as garden flowers. Many of the introduced species still remain restricted to certain localities, and others, although more widely disseminated, are in such situations as to make their origin self-evident, while others are so distributed as to appear to all intents and purposes as natives. Again, by the clearing of the forests, the general cultivation and changes in the condition of the soil, many native plants best able to endure the changes, or those to which the changes have proved beneficial, have been given positions of undue prominence in the flora; while other species, which at the time of the settlement of the country were much more abundant, have now become less numerous, or have entirely disappeared. It is a matter of considerable difficulty to picture to ourselves the country as it appeared two hundred and fifty years ago. It is probable that extensive forests reached to the ocean shore and, excepting the river marshes and clearings made by the fires of the aborigines, occupied the whole territory. The Indians cultivated corn, pumpkins, beans, tobacco and a few other plants. It is possible that some species of foreign plants had been introduced previous to the settlement by the whites through trade or by adventures, but this is uncertain. The study of the introduced plants is aided by the work of Mr. John Josselyn (*New England Rarities Discovered*), a reprint of which, with valuable notes by Professor Ed-

ward Tuckerman, is now available. Josselyn visited New England several times; when on the longest sojourn, 1663-1671, he landed at Boston and soon went to Black Point, Scarborough, Maine, where most of his observations were made. Josselyn was an excellent observer and although his writings are filled with the usual strange stories current in old works upon new and unexplored countries, they contain the first accounts of any consequence regarding the New England flora. This author did not, perhaps, make many observations in Essex County, yet his work contains but few species that do not grow here and its chief value consists in its arrangement and separation of the plants indigenous from the introduced weeds, thus giving what then appeared to be the plants which came with man or, as he called them, "Such plants as have sprung up since the English planted and kept cattle in New England." This, with the occasional observations by other writers, gives us a fair idea of what plants had established themselves here rather more than two hundred years ago. According to Professor Tuckerman, the next date by which the student may fix the introduction of foreign species is 1783, when the list of plants observed by Rev. Manasseh Cutler, of Ipswich, was published (Mem. Am. Acad. Vol. I). Since that date observations are more frequent and the more recently introduced species can be traced quite accurately. It is also quite probable that plants which at one time were quite common weeds have disappeared altogether. Dr. Cutler mentions the *Amarantus* known by the common name of "Prince's Feather" or "Love-lies-bleeding," as "amongst rubbish," but to the writer's knowledge it is never met with excepting in old-fashioned gardens. The *Hyoscyamus niger* and *Artemisia Absinthium* (Wormwood), spoken of by Dr. Cutler and other earlier writers as common in waste

places, are now very rare or unknown. The last mention of *Nicotina rustica* is by Dr. Osgood in 1853, but it is doubtful if he observed it as late as that; his observations were very probably made in previous years, and no one has since noticed it. The introduction of new manufactures is likely to bring with it plants which may be persistent enough in the region where they are introduced but unknown elsewhere. Such is the case at "Tapleyville," Danvers, where, in the vicinity of a carpet factory established forty years ago, are to be found several species of foreign plants unknown in any other town of the county, and perhaps not elsewhere established.

Two or three plants observed along the shore of the Merrimac river suggest a close connection with the mills at Lowell and Lawrence, one of them being a southern sedge. Many plants are emigrating eastward from our western states, travelling as it were by rail. The *Rudbeckia hirta*, now quite common in fields hereabouts, according to Dr. Pickering, did not reach Philadelphia until 1826, and this vicinity until perhaps 1855.

The latest arrival noticed (1878) is that of *Eleusine Indica*, a weedy, oriental grass which is common at New York city and Philadelphia. It has made its appearance along the railroad tracks at the Pennsylvania Pier, Salem, having travelled thence by the P. and R. R. Co's steamers, which regularly bring coal from Philadelphia. This last comes under the head of "ballast plants," a very full account of which may be found in the Torrey Bulletin for November, 1879.

SKETCH OF SOME OF THE EARLY BOTANISTS.*

THE study of botany in Essex County, we may in fact say New England, dates from the time of Dr. Manasseh Cutler at the close of the last century. Previously the plants had only been noticed by writers upon more general subjects of natural history, or casually mentioned in letters written from this country to England. But from Cutler's time there has been a steady succession of botanists, chiefly amateurs, who have kept alive an interest in the subject, even at times making it the prominent topic considered at the literary and scientific societies and clubs of the region. It will only be attempted here to give a brief sketch of the older botanists who have contributed most to the knowledge of the subject in the county.

Francis Higginson, in a letter written from Salem in 1629-30 (Mass. Hist. Coll., I, 121), speaks of the plants which he had noticed growing in the vicinity, and mentions several species which probably now exist in the same localities as observed by him at that early date; one, the *Rubus odoratus* (Flowering Raspberry or Mulberry) still flourishes in the "Great Pastures," and the *Osmorrhiza longistylis* (Chervil or Sweet Cicely) has been noticed until very recently at "Paradise," near Salem.

William Wood, in the New England Prospect, speaks extendedly of the early gardens and the numerous useful plants native to the country, mentioning what he saw at Ipswich, Salem, Marblehead, etc.; Parkinson and Jerard

* The writer is indebted to Dr. Henry Wheatland for his assistance in obtaining notices of the early botanists of the county, chiefly from the Proceedings and Historical Collections of the Essex Institute, from which a large portion of this sketch is made.

enumerate New England plants; John Josselyn, previously referred to, gives an account of the native and introduced species; and other early writers, including John Winthrop, speak of the excellent quality of the native fruits and the beauty of the flowers, particularly dwelling on the superiority and abundance of the wild strawberries.

None of these can, however, be spoken of or claimed as Essex County botanists, and it is not until after the close of the American Revolution that we find any serious or scientific study of the plants of the county.

Dr. Manasseh Cutler was born at Killingly, Connecticut, May 3, 1742, graduated at Yale College in 1765, afterward studied law, and was admitted to the bar in 1767. He soon studied for the ministry and was settled at the Hamlet Parish in Ipswich, which was set apart from that town and named Hamilton for Alexander Hamilton whom Dr. Cutler greatly admired. He served as a chaplain during the war of the revolution and on his return studied medicine which he afterwards practised among his parishioners. The efforts of Dr. Cutler secured the passage, in 1787, of the famous ordinance by which freedom was declared in the northwestern territories and he soon after organized the first band of pioneers that emigrated from the east to Ohio. The next year he followed them driving himself the entire distance in a sulky, being accompanied by a few friends. Upon his return from the west, or in 1800, he was chosen to represent old Essex in Congress where he served two terms. While in Philadelphia in 1787, he visited at the house of Benjamin Franklin, and afterward wrote an account of the great statesman which was considered as one of the best, being copied by Sparks in his life of Franklin. Dr. Cutler prepared, in 1783, "An account of some of the vegetable

productions, naturally growing in this part of America, botanically arranged," which was published in the first volume of the *Memoirs of the American Academy of Arts and Sciences* in 1785. He here described some three hundred and fifty species of flowering plants suggesting several points which have been followed by later botanists. It was Dr. Cutler's intention to extend this work, and there are in existence several manuscript volumes which he prepared toward this end. These valuable manuscripts are in the possession of Prof. Edward Tuckerman, who intends that their final destination shall be the library of Harvard; and it is to be hoped that they may at some future day be printed, with such notes as would be required to make them of use to the present generation of botanical students. Dr. Cutler's death occurred in 1823, after more than fifty years' service in one parish. He has been called the father of American botany, a term certainly appropriate for the times and for this region, where his mantle fell on the shoulders of Osgood, Nichols, Oakes, and Pickering.

Dr. George Osgood, son of George and Elizabeth (Otis) Osgood, was born at Fair Haven, March 25, 1784. He studied medicine with his father and settled in Danvers in 1804, where he had for many years an extensive practice. Dr. Osgood acquired, by his association with Cutler, Nichols and Oakes, a taste for and knowledge of botany which lasted him through life. He contributed to Dr. Bigelow much valuable information while the latter was preparing his "*Florula Bostoniensis*," and in 1853 published in the *Salem Observer* a local list of flowering plants. He died May 26, 1863.

Dr. Andrew Nichols was born in the rural part of Danvers, Nov. 22, 1785. He was the son of Andrew and Eunice (Nichols) Nichols, and studied medicine under

Dr. Waterhouse, settling in that part of Danvers, now Peabody, in 1808, where he practised successfully, remaining there until his death, March 31, 1853.

He was particularly interested in the local natural history of this region, and in 1816 delivered a series of lectures on botany, the first of such in this part of the country. Dr. Nichols was one of the founders of the Essex County Natural History Society and its president, retaining unabated till death his interest in his favorite study.

William Oakes must be acknowledged as the most eminent botanist of Essex County birth. He was the son of Caleb Oakes and was born at Danvers, July 1, 1799. He was educated at Harvard receiving the degree of A. B. in 1820. He early developed a taste for natural history relinquishing the practice of law, his chosen profession, to study this branch of science.

Mr. Oakes' work was chiefly in New England, collecting extensively in Essex County, Mass., Vermont, the White Mountain region, and southeastern and western Massachusetts. He prepared the list of plants of Vermont for Thompson's history of that state; and his work at the White Mountains was so thorough that recent collectors, with all the advantages of improved roads and easy access to every portion of that region, have failed to add but few to the number of species which he discovered there. It was his intention to have published a flora of New England, but was deterred by the appearance of Beck's Botany. He afterwards became deeply interested in a work, with illustrations by Sprague, upon White Mountain scenery, which was published in 1848; but not until after his death which occurred July 31, 1848, the preface of the work having been written July 26, only five days previous.

Mr. Oakes was impulsive and generous; thoroughly in

earnest in his favorite study, he seriously impaired his fortune to carry out his schemes more perfectly. Like many other men of note, he was hardly appreciated while living, but no monument which could have been erected would have made his memory more cherished or his worth more appreciated by the present generation of botanists than that which he left behind,—an extensive collection of most beautifully prepared botanical specimens, with an identification absolutely correct, besides many valuable notes and observations. Prof. Tuckerman dedicated to him a pretty little plant common in the region of Plymouth, but it afterwards had to be transferred to another genus; and now for the first time in any flora, it becomes a pleasant duty to give by its name, "Oakesia," the little bellwort, a common Essex County plant, which Prof. Watson of Cambridge has found necessary to separate from the genus to which it has heretofore been referred in his revision of the family Liliaceæ, and has feelingly dedicated to the memory of William Oakes.

Dr. Charles Pickering, son of Timothy and Lurena (Cole) Pickering and grandson of Col. Timothy Pickering of revolutionary fame, was born at Starucca Creek on the Susquehanna, Pennsylvania, in 1805. He was educated at Harvard in the class of 1823, graduating at the medical school in 1826. In 1838 he was appointed naturalist to the U. S. (Wilkes) Exploring Expedition; and to perfect his knowledge of animals and plants in foreign parts, he made very extensive journeys after his return from that expedition. He was the author of several works of great value which in their preparation required much untiring research; among them are "Geographical distribution of Animals and Plants" and "Chronological History of Plants," the latter work occupying the last sixteen years of his life in its preparation.

During his college life Dr. Pickering spent much of his time at Wenham, at the homestead of his grandfather, Col. Pickering, and here he was in the habit of botanizing in company with William Oakes, a favorite locality being the "Great Swamp." It is but right that Essex County should claim a share of the honor of his name, for it was here that his attention was drawn to botany, and in the Chronological History of Plants, page 1063, we find the following entry "1824 * * In this year, after an excursion in 1823, with William Oakes diverting my attention from entomology, my first botanical discovery." Dr. Pickering died at Boston, March 17, 1878. The writer will always remember with pleasure and gratitude the many hours spent with Dr. Pickering during 1876 and '77, while he patiently sought out, among his early manuscript notes and his letters from William Oakes, the species and stations noticed while botanizing in Essex County more than fifty years before.

Rev. John Lewis Russell, son of John and Eunice (Hunt) Russell, was born at Salem, Dec. 2, 1808. He was at Harvard in the class of 1828, and graduated at the divinity school in 1831. After occupying pulpits in Chelmsford, Hingham, Brattleboro, Kennebunk and various other places, he returned in 1853 to Salem, where he resided, preaching occasionally, until his death June 7, 1873.

Mr. Russell was particularly devoted to cryptogamic botany, publishing accounts of his investigations from time to time as he proceeded, besides many popular articles on various families of plants. He lectured frequently on botany and was for many years vice-president of the Essex Institute.

Mr. Russell contributed much to the general knowledge of botany in Essex County, but his most extensive collections were made in other places.

The only attempt at an enumeration of county plants, as such, is that of Mr. Cyrus M. Tracy, of Lynn. It was intended to give a list of the flowering plants found in that region and contained 546 species. Besides possessing a very happy gift as a botanical lecturer, Mr. Tracy has contributed several valuable articles upon local botany to the publications of the Essex Institute and elsewhere.

Mr. Geo. D. Phippen, of Salem, whose notes on the native plants have materially aided the writer, has often presented the subject of botany at meetings of the Institute, and has written several articles of interest upon the subjects which have been published in various places. Mrs. C. N. S. Horner, of Georgetown, a most excellent botanical collector, published a list of the plants of that region in the Georgetown Advocate in 1876. Mr. Calvin Pool, of Rockport, prepared a somewhat smaller list of plants of Cape Ann, which was published in "Pigeon Cove and vicinity" in 1873. Mr. S. B. Buttrick, of Salem, whose years do not diminish his interest in botany, and who is ever on the alert to find some rare flower, has contributed several lists of plants to the earlier numbers of the Proceedings and Bulletin of the Essex Institute, as also have Dr. G. A. Perkins, of Salem, chairman of the botanical section of the Peabody Academy of Science, Mr. George F. H. Markoe, formerly of Salem, now of Boston, Rev. Ariel P. Chute, formerly of Lynnfield, and many others. Dr. Henry Wheatland, although not claiming to be a botanist, has often aided those who did, by his assistance in revising their articles for the publications of the Institute while acting as the editor. Mr. S. P. Fowler, of Danvers, one of the older botanists and a companion of Oakes and Osgood, in many rambles, has made frequent observations regarding the trees and shrubs, and has cultivated extensively many

of our native plants. Of those who have contributed to swell the list of known county species of plants and who have not published any writings on the subject, it will be impossible to speak separately. They must be content to feel that they have aided the cause of botanical knowledge as they certainly have, and are deserving their share of credit for so doing. There are many who have collected and prepared specimens which will always serve as pleasant reminders of their work. Among such are Mr. B. D. Greene, who added several plants to the flora from near Tewksbury; Mr. Wm. P. Richardson and Mr. S. Bass, who botanized near Salem; and more recently Mrs. Alex. Bray, Mrs. Charles Grover, Mrs. J. Babson and Mrs. Davis, who have added many species to the list of Cape Ann Algæ; Mr. Frank Lufkin of Pigeon Cove, who has noticed many plants new to that region; Mr. John H. Sears, of Danvers, whose specialty, the forest trees, has been the means of bringing together at the Museum of the Peabody Academy of Science one of the best local collections of native woods in any museum; Mr. W. P. Conant, who has added many species of Cyperaceæ and Gramineæ and a rare *Botrychium* to the flora; besides many others whose names will appear in the list associated with the plant which they have been fortunate to discover.

To those whose assistance either by their writings, by specimens contributed, or who have rendered any assistance by information or other attention, the writer desires to express his warmest thanks. It would be impossible for him to specify those who have aided him or their manner of so doing, and he can only thank all collectively which he does most sincerely.

Publications in which notices of interest relating to the Botanists or the Plants of the County may be found.

MEMOIRS OF THE AMERICAN ACADEMY OF ARTS AND SCIENCES, Vol. I.
Boston, 1785. CUTLER'S LIST OF PLANTS.

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FLINT'S GRASSES AND FORAGE PLANTS.

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LIST OF THE PLANTS OF GEORGETOWN AND VICINITY, by Mrs.
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LIST OF PLANTS NEAR DANVERS, by Dr. Geo. Osgood, in SALEM
OBSERVER, 1853.

HOVEY'S MAGAZINE OF HORTICULTURE (various articles by Oakes
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LIST OF PLANTS OF PIGEON COVE, by Calvin Pool, in "PIGEON COVE
AND VICINITY."

THESE notes are introductory to an Enumeration of the Plants of Essex County that has been prepared, after a careful examination of the work of the earlier botanists and diligent search in almost every portion of the county for species not previously noticed, and will appear in a separate issue, as an occasional publication of the Institute.

With so few persons devoting themselves to the study of botany or the collection of speci-

mens, particularly of the lower orders of plants, it would be impossible to present an absolutely complete list, and perhaps with even the greatest facilities no one has succeeded in so doing for any region.

Almost the only extended collection of dried specimens of county plants were those of the late Mr. Oakes, so that there really exists no very great foundation upon which to build, other than the herbarium recently collected, and the writings of the more reliable among the earlier botanists, who for nearly a century have now and then appeared upon the scene.

Of the plants enumerated, almost all are represented in the herbarium of the Peabody Academy of Science at Salem, and where the species has not been collected and its occurrence is only known by the testimony of some writer, it is so stated in the list.

Several errors have been detected in early local lists and corrected, and such notes added to the paper as seem of interest locally or otherwise.

The writer would express his indebtedness to Prof. Asa Gray, Prof. G. L. Goodale and Prof. Sereno Watson, for their numerous kindnesses and assistance rendered him during the past five years while preparing this flora, and also to Messrs. Edwin and Charles E. Faxon for their kindness in revising the final proofs.

FIELD MEETING AT THE WILLOWS, SALEM NECK,
TUESDAY, JUNE 22, 1880.

THE two hundred and fiftieth anniversary of the arrival of John Winthrop, at Salem, with the charter and records of the Massachusetts Bay Company, occurring on June 22, 1880, it was deemed meet and appropriate that the first field meeting of the season should be held on that day, at the Pavilion on Salem Neck, from which is obtained an extensive view of the bay, and of the shore along which the fleet sailed ere the anchors were dropped in the waters of New England; and that the exercises of the occasion, instead of a discussion on subjects of general scientific and historical interest, should be devoted to a recital of incidents connected with this important event, or such other topics as the time and place might suggest.

A description of the appearance of Salem harbor, at this early period in our history, may be gleaned from the following extracts from the diary of Rev. Francis Higginson, who, under date of "Fryday, June 26, 1629," writes: "The sea was abundantly stored with rockweed and yellow flowers like gillyflowers. By noon we were within 3 leagues of Capan, and as we sayled along the coast we saw every hill and dale, and every island full of gay woods and high trees. The nearer we came to the shoare the more flowers in abundance, sometymes scattered abroad, sometymes joyned in sheets 9 or 10 yards long, which we supposed to be brought from the low meadows by the tyde. Now what with fine woods and greene trees by land, and their yellow flowers paynting the sea, made us all desirous to see our new paradice of New England, whence we saw such forerunning signals of fer-

tilitie afarre off.”¹ On Monday, June 29, 1629, he writes : “we passed the curious and difficult entrance into the large and spacious harbour of Naimkecke, and as we passed along it was wonderful to behold so many islands replenished with thicke wood and high trees and many fayre green pastures.”²

The appearance of this shore, so pleasantly described by Mr. Higginson, has undergone great changes since his day, and more especially during the past thirty or forty years. It is now included within the limits of Beverly, Manchester, and Gloucester, and is a much frequented and very delightful summer resort, many of the wealthiest and most prominent families of the country, including merchants, bankers, artists, professional men and persons of leisure from the great cities, making this their summer home.

The fragrant pine woods, the oaks, the birches, and the green fields come down even to the beaches, to the rocks, and to the seaweed, and mingle the freshness of the country with the ocean breezes. The elegant villas, with their quaint architecture, dot the coast, and enliven the dark green of the woods with their red roofs. Every secluded cove has its favorite yacht; the beaches are hard and smooth, and the shouts and laughter of the bathers mingle harmoniously with the rore of the surf, and the hoary cliffs of primitive rock extend into the sea, scarred, wrinkled and worn.

The belt of woods extending parallel to the coast, diversified with ponds, rivulets, rocky hills and meadows, the

¹ Mr. Higginson arrived near midsummer; at this period of the year, great numbers of jelly-fishes (the *Cyanea arctica*, *Aurelia flavida*, and other species) are observed on the surface of the water near the coast. Possibly specimens of these animals, some having the resemblance of flowers, may have attracted the notice of the voyager, and have thus been mentioned in his journal.

² See Hutchinson's Collection of Papers, pages 41 and 44.

habitat of many rare floral gems (of which may be specified the *Magnolia glauca*, a representative of a more southern flora, and the *Linnea borealis*, that of the alpine), affords many picturesque views and delightful rural by-paths and lanes, adding much to the attractions of this pleasant summer retreat.

The Pavilion is located on or near the six acres of land granted by the town of Salem, to Rev. John Higginson in 1661. This land he conveyed by deed (Reg. Deeds, Essex, vol. iii, fol. 396), 25, 9, 1670, to Thomas Savage, who on August 6, 1675, transferred the same by deed of gift to his daughter Sarah and her husband, John Higginson, jr., with lands adjoining which he had purchased of other parties, in all about twenty-eight acres (Reg. Deeds, Essex, vol. iv, fol. 383).

A grandson of John Higginson, jr., the fourth John Higginson³ in succession (the four were living at the period from the birth of the youngest Jan. 10, 1697-8, to the death of the eldest in Dec. 9, 1708) conveyed this estate April 8, 1730, to Benj. Ives⁴ (see Reg. Deeds, Essex, vol. iv, fol. 92).

³ Rev. John Higginson, born at Claybrook, Aug. 6, 1616, came with his father to Salem in 1629, and in 1641 assisted Rev. Henry Whitfield (whose daughter Sarah he married) in the ministry at Guilford, Conn. He returned to Salem in 1659 and was ordained as pastor of the church, which his father had founded some thirty years before, and continued the respected minister until his death Dec. 9, 1708.

II *John* born at Guilford, 1646, a merchant, settled in Salem; Lieut. Col. of the regiment, a member of the Governor's council, etc., died March 23, 1719.

III *John* born Aug. 20, 1675, educated a merchant, lived in Salem, died April 26, 1718.

IV *John* born Jan. 10, 1697-8, graduated at Harvard College, 1717; sustained chief offices of the town, County Register, etc.; died July 15, 1744.

For a sketch of this family see Hist. Coll. Essex Inst., vol. V, p. 33.

⁴ Benjamin Ives was the son of Thomas and Elizabeth (Metcalf) Ives, and was baptized at the First Church, Aug. 9, 1702. He md. Anna, dau. of Roger Derby, and in 1715 bought of the family of Thomas Beadle deceased, the estate now bounded by Essex, Pleasant, and East streets. He became a prominent merchant of his time and bought much real estate in Salem. Capt. Ives died in the prime of life, in the full tide of a prosperous career, about July, 1752.

After the death of Benjamin Ives in 1752, the estate with additional purchases, including land obtained from the town by vote of the citizens, in exchange for Pignal's⁵ or Roache's Point, on which is located the present almshouse, amounting to forty acres, and also land from Abbot,⁶ 16 Aug., 1738 (Reg. Deeds, Essex, vol. lxxiv, fol. 176), passed into the possession of his son John Ives, who conveyed the same to Richard Derby⁷ May 16, 1758 (see Reg. Deeds, Essex, vol. cxliv, fol. 40).

After the death of Richard Derby this property was assigned to John Derby towards his portion of his father's estate, who conveyed the same by deed to Edward Allen, Dec. 13, 1793 (see Reg. Deeds, Essex, vol. clvii, fol. 73). After the death of Edward Allen, July 27, 1803, and of his wife Margaret, Aug. 13, 1808, this estate passed into the possession of his son Edward Allen, who sold the same to Josiah Orne, Feb. 26, 1810 (see Reg. Deeds, Essex, vol. clxxxviii, fol. 177). Josiah Orne, April 6, 1816, conveyed the same to Jonathan Dustin of Danvers (see Reg. Deeds, Essex, cex, fol. 86). Eliza Sutton, Hazen Ayer and Serena his wife, in her own right, all of Peabody, being heirs of the late Jonathan Dustin,

⁵This name appears in deeds, but it should be "Picton" named for Thomas Picton to whom the land was originally granted. Sometimes spelled Pigen.

⁶The following Deposition from the State Records probably refers to the same person:—John Abbot of Salem, Shoreman, aged seventy years, testifyeth and deponeth that during my acquaintance of many years with Mr. Philip English of Salem who is now a Prisoner in the said Town Gaol, I have heard him the said English declare that he was bred & born in the Communion of the Church of England, and that he would go to no other publick worship willingly, & if he had opportunity to go to a Church agreeable to which when the Church was erected at Marblehead he the said English & I have gone frequently thither together from that time down to this, & further there lying a ferry between this Town & Marblehead over which the ferryman could by no means be prevailed upon to carry us every Lord's day, he, the said English, has several times spoke to me to be partner with him in a Boat that we might go thither constantly to Church.

Salem, Feb. 29: 1724-5.

⁷For a sketch of the Derby Family, see Hist. Coll., Essex Inst., vol. III, pp. 154, 201, 283.

conveyed the same to Daniel B. Gardner, jr., of Salem, Sept. 24, 1875 (Reg. Deeds, Essex, vol. decccxli, fol. 233), who had the land surveyed, streets and avenues laid out, and many lots sold, upon which have been built a large number of seaside cottages.

In 1876, the streets and avenues were constructed. In 1877, the Naumkeag Street Railway Company extended its tracks from the junction of Essex and Webb streets to the Willows. Cars went over the road June 9, of that year—on the following day it was opened for the public travel. Parties interested in the railroad bought land of Mr. Gardner, June 19, 1878 (Reg. Deeds, Essex, vol. m, fol. 204), and during the following spring and early summer erected the Pavilion (the place of meeting), which was opened to the public on the 17th of June. This building contains on the lower floor a refreshment saloon, a large hall 35 by 80 feet, with anterooms attached—on the second floor, a large dining hall and kitchen, with small private dining rooms. The tower has rooms in several stories, and above the balcony, is a camera obscura, giving an extensive marine view, including the adjacent shores and the islands in the harbor. During the present season the Coliseum, a large circular building, has been erected for entertainments and public meetings—the grounds have been enlarged by the purchase of Mr. Gardner, of additional land adjoining, March 4, 1880 (Reg. Deeds, Essex, vol. mxxxii, fol. 246), and very much improved by the planting of shrubbery, ornamental trees, and flowering plants, making paths, fountains, etc. Additional improvements are in contemplation the coming season.

This portion of the neck has been known in the past as "The Higginson Farm," "The Allen Farm," and more recently "The Juniper." Some years since, there was a

large group of juniper trees, but for several years they have been gradually decaying — a few yet linger among the cottages, so few that one would hardly conjecture that this place derived its name from their presence. Hospital Point and the land adjoining on the northern boundary of the above, owned by the city, was set apart by an order of the city council, adopted May 9, 1859, "to be kept open and dedicated as a Public Square for the use of the inhabitants of Salem forever, under such regulations as the council shall from time to time establish." This place has been known as "The Willows," from a double row of willows planted about the beginning of the present century, under the direction of Capt. Israel Williams.

On the 8th of July, 1878, an ordinance was passed by the council, and approved by the mayor on the day following, for "Ball Playing," assigning for this purpose a piece of land enclosed as a part of the "Poor Farm," lying west of "The Willows" so called, and running west and including the rising ground to the western line of the fort. On this land trees of various kinds have been set out, and these grounds will probably be opened to the public at no distant day.

During the forenoon, an opportunity was afforded, to those interested in our early history, of visiting the various places of interest, and of recalling some of the old landmarks that are now rapidly disappearing under the hands of modern improvement. On Winter Island and other places near by, buildings were erected, wharves constructed, and vessels built for the purpose of carrying on the fisheries which flourished from an early period to 1735, when it was entirely discontinued in this locality, and now scarcely a vestige of this former occupancy and industry remains.

Previous to 1714, Winter Island was owned by the

commoners (except a narrow strip on the northeastern end which was attached to the Higginson farm), and was leased to various individuals—after the vote of 1714, it came into possession of the town and was used as a pasture with the neck, after the discontinuance of the fisheries until 1824, when it was transferred to the Poor Farm. In 1863, it was ceded to the United States government for coast defences.

In 1870, the Secretary of War permitted the Trustees of the Plummer Farm School for boys to establish their institution there, and the city conveyed to the same parties whatever interest it might have in the premises.

This institution was founded by Miss Caroline Plummer of Salem, who died May 15, 1854, and is intended for the instruction, employment, and reformation of juvenile offenders in the city of Salem. The residue of her estate, after the payment of other bequests and debts, was appropriated to this purpose. Sum received, \$25,462.23; the Trustees are appointed by the mayor and aldermen, and are incorporated by an act of the legislature, passed May 21, 1855. First meeting of the Trustees was held Nov. 26, 1855, when by-laws were adopted and officers elected. The present building was finished for occupancy May 20, 1870. The city government appropriated \$8,000 for this object. Charles A. Johnson was appointed the superintendent, and now holds the office. First boy was admitted Sept. 1, 1870—the present number is thirty. The present amount of invested funds is \$50,000.

The traditional site of Clifford's tavern was on the left of the road just after passing the causeway. The Town Records (vol. for 1659–1680, page 306) inform us that "at a meeting of the selectmen, Nov. 25, 1679, the selectmen consent unto and approve of Serg^t Jno. Clifford to keepe a victualling house att Winter Island."

In 1805, the question of the town's right to sell this island was introduced at a town meeting, and a committee, consisting of Joseph Story (afterwards Justice U. S. Sup. Court) and others, was directed to report on the subject — the report was favorable and was submitted at a meeting held Aug. 12 (see Salem Gaz., Aug. 16–20, 1805), and was not accepted. Samuel Putnam (afterwards a Judge Mass. Sup. Court) expressed views in opposition, and it is intimated that Wm. Prescott entertained similar opinions.

Some fifty years afterwards the subject of selling Winter Island was again agitated and referred by the city council to the city solicitor for his opinion (see Report on the sale of the Neck Lands, communicated to the city council, Dec. 27, 1858, by W. C. Endicott, the city solicitor (now Judge Mass. Sup. Court)).

This document, in addition to the legal opinions therein expressed, contains a history of the Neck Lands, in particular, and notices of the commoners' grants, the circumstances under which they were made, the policy pursued by them at that period, and also the town's connection with these lands. It is well known that all the lands in this vicinity were originally held by the commoners, the proprietors of lands lying in common and undivided. At meetings held in 1713 and 1714, votes were passed, granting to the town, the roads, the burial places, the neck, the common, and other unappropriated lands, lying within the body of the town. Grants were also made to the poor for a pasture under the care of the selectmen, and to the ministry in the several parishes, also, that all the common lands be measured and divided among the commoners, according to the number of cottage rights each one held. Several distinct proprietaries were formed under an act of the legislature, The Great Pasture, Sheep Pasture, etc. Scarcely a vestige now exists of this old custom of holding lands in common. In this

connection, reference may be made to a Report on "The common lands of the city of Salem," prepared by Hon. C. W. Upham, during his mayoralty, and printed in the Reports for the financial year 1852.

Several forts and breastworks have from time to time been built, but only two now remain, Fort Lee on the highlands of the Neck, and Fort Pickering on Winter Island. According to tradition, Fort Lee was originally planned by Gen. Charles Lee, who gave instructions regarding its construction, and that it be designated by his name. Charles Lee was a major general in the Revolutionary army, born at Dernhall, Cheshire, England, in 1731, died at Philadelphia, 2 Oct., 1782. He accompanied Washington to Cambridge, where he took command of the army 3 July, 1775; at this time he was employed with others in arranging for the defence of the harbors along this coast.

Fort Pickering was built soon after the settlement; frequent allusions are found in our Records. In 1699, it was called Fort William, sometimes Fort Ann. Oct. 30, 1799, the name was changed by order of the war department to Fort Pickering, in honor of T. Pickering of Salem, a member of Washington's military family during the war, and of his cabinet during his presidency. It has been several times put in order, when war was pending, mounted with cannons and garrisoned with troops; on the return of peace, the guns were removed and the troops disbanded.⁸

Perhaps the most interesting of these earthworks, because now threatened with obliteration at no distant day, though still easily traced, is the one at the Juniper.

There seems to have been an old block house there in 1758. Barracks had been erected there, April 22, 1776,

⁸ See Hist. Coll. Essex Inst., vol. V.

and in 1787, Juniper's battery is named in a report of the French engineer, Rochefontaine, who was then examining the fortifications of New England. At this period, the old forts seem to have been much frequented by children from the east end of the town, who resorted there for games of props and wrestling, and on holidays found cakes and other articles of refreshment for sale there. (See Hist. Coll. Essex Inst., vol. VI, p. 85.)

Another incident of interest is preserved in the "famous records" kept at the barber's shop of Benjamin Blanchard on Essex, opposite Cambridge street; in which records, local events were entered from day to day, by the eminent patrons of that resort. An entry under date of Jan'y 17, 1809, reads as follows :

"Col. Lee, Collector of Customs, at the head of about seventy men, went to the Hospital on the Juniper, to prevent the Embargo laws from being violated. It was suspected a vessel belonging in Beverly would sail that evening." The suspected craft did not sail that evening, but escaped the Collector's vigilance a night or two after, and it was said that her Federalist owners, as a blind, claimed that she had been run away with, and advertised a reward for information which would convict any unauthorized persons of having taken possession of her. The Hospital at the Juniper was established in 1792(?) and was destroyed by fire on the 16th of October, 1846, and the playground which the boys of Salem selected a century ago is now a place of wholesome recreation for the southern half of Essex County.

The inspiration of the occasion was not wholly in the memories of the past, but bright sunlight, refreshing breezes, the lovely green of the shore and the deep blue of the bay, dotted with the white sails of many yachts, engaged in their annual regatta that morning, added

much to the enjoyment of the large number who participated in the celebration.

At 1 p. m. lunch was served in the dining hall ; at 2.30 o'clock the afternoon session was held in the hall below. The President in the chair.

The PRESIDENT introduced, in brief and appropriate words, Robert S. Rantoul, Esq., who delivered the address which is printed in the Historical Collections of the Institute, Vol. XVI, Part 3, with the other exercises of the meeting, consisting of a poem written by Miss Lucy Larcom, and read by Rev. De Witt S. Clark, of the Tabernacle Church, Salem ; remarks from Col. T. W. Higginson of Cambridge, Hon. G. Washington Warren of Boston, Hon. G. B. Loring of Salem, Hon. H. K. Oliver, mayor of the city, Seth Low, Esq., of New York City ; letters were read by Rev. E. S. Atwood of the South Church, Salem, from Hon. Chas. Levi Woodbury of Boston, John G. Whittier of Danvers, Hon. Robert Chas. Winthrop of Boston, Hon. Leverett Saltonstall of Newton, Prof. A. P. Peabody of Cambridge, and Hon. Marshall P. Wilder of Dorchester. The exercises appropriately closed with the reading by Rev. George H. Hosmer, of the East Church, Salem, of a communication, prepared by Stanley Waters, an associate member, giving a succinct account of the life of Rev. William Bentley, D. D., a former minister of that church, a distinguished antiquarian and historical scholar, and well known for his attainments in philology and general literature ; this gathering also commemorates his birth-day. He was born in Boston, June 22, 1759. The paper also contains a narration (found among Dr. Bentley's papers) of a drive of Benjamin Ward, in company with his grandfather, Miles Ward, about the town, in 1760.

*A List of the Birds of the Hudson Highlands, with
Annotations.*

BY EDGAR A. MEARNS.

[Continued from page 25, Vol. XII.]

Family, **CORVIDÆ.**

102. *Corvus frugivorus* (*Bartram*). COMMON CROW. A permanent resident; breeds.

Crows are partially migratory; and whether those that breed here are permanent residents, or are replaced in winter by individuals which breed farther north, is a mooted question; the latter hypothesis seems most probable, however. There is a regular spring and fall migration, when they move in immense flocks. On the evening of December 5, 1876, I saw a flock that almost rivalled an historic flock of Wild Pigeons. The Crows were flying southward, and settling in an evergreen wood beside the Hudson. I immediately started towards the spot, and, as I neared it, they all arose. The flock that I saw alight at first was but a small fraction of the entire number that then rose into the air; there were thousands of them. Save the loud, rushing sound produced by their flight, which sounded like the roar of a large waterfall, they were nearly silent. As they circled overhead, a few caws, like words of command from chosen officers, were heard; but the rank and file uttered no sound. Soon they alighted again in a deciduous forest not far distant, only to be again alarmed at something and take to flight; but they finally settled near the same place for the night, without a caw or a wing-flap to indicate the whereabouts of that sable army of usually garrulous birds. These migratory flocks begin to appear in October, and continue until the commencement of winter. In February, flocks are seen passing northward.

There is a mountain in the Highlands, on the east side of the Hudson, where, late in summer, thousands of Crows come nightly to roost in the cedars; all come from the east, and I do not think that any of our resident Crows join their camp.

Crows are expert fishers. In winter, they watch at the fissures in the ice along shore, at low tide, and claw out whatever fishes are passing. I have known two Crows to capture upwards of twenty good-sized gold fishes (*Crassius auratus*) in less than an hour's time.

Crows usually begin to build early in April. Mating begins in March, when they are more noisy and less shy, than at other times. The eggs, as a rule, are deposited from the middle of April to the middle of May. A nest was found on April 14, 1873, containing six eggs; another on May 24, 1873, with four fresh eggs. Their complement varies from four to seven. The old birds are very assiduous in the care of their young; the latter make a great outcry while being fed; the mother may often be seen flying in circles about the nest, talking to the little ones, and modulating her voice whimsically.

Crows eat the eggs of other birds. I caught one in the act of destroying those of the Night Heron (*Nyctiardea grisea naevia*). He came silently and stealthily into the swamp, but my shot cut short his rapacious career just as he was about to indulge his gluttonous appetite at such great cost to the poor Herons, and he tumbled ingloriously into the mud.

Dimensions.—Average measurements of six males: length, 19·30; stretch, 37·70; wing, 12·18; tail, 7·52; culmen, 1·92; gape, 2·22; tarsus, 2·40; middle toe, 1·51; middle toe and its claw, 1·98. Average measurements of six females: length, 18·60; stretch, 36·05; wing, 11·82; tail, 7·12; culmen, 1·76; gape, 2·02; tarsus, 2·28; middle toe, 1·38; middle toe and its claw, 1·85. Measurements of largest male (No. 234, ♂ ad., October 8, 1874, Highland Falls, N. Y., E. A. M.): length, 19·75; stretch, 39·00; wing, 13·31; tail, 8·06; culmen, 1·96; gape, 2·26; tarsus, 2·40; middle toe and its claw, 1·98. Measurements of smallest female (No. 2,011, ♀ ad., March 13, 1880, Highland Falls, N. Y., E. A. M.): length, 18·10; stretch, 34·50; wing, 10·85; tail, 6·85; culmen, 1·73; gape, 1·98; tarsus, 2·27; middle toe and its claw, 1·80.

103. *Corvus ossifragus* (Wilson). FISH CROW. Occasional upon the Hudson River. Observed from Riverdale to Cornwall.

I recorded its capture at Highland Falls, in the Bulletin of the Nuttall Ornithological Club (Vol. III, No. 1, pp. 45–46, for January, 1878), on the 7th of May, 1877, when I shot a female specimen. I have come across but one other Fish Crow on the Hudson River. On May 1, 1880, at Cornwall, I heard a note several times repeated, which I recognized as that of the Fish Crow. Afterwards, one flew towards me and passed quite near, so that I had a distinct view of it; its note, at the same time, was unmistakable, but I had no gun with me to make assurance doubly sure.

Mr. Eugene P. Bicknell, the only other observer who has noted this Crow upon our river, writes as follows:¹ “As will be seen from the following remarks, there is no doubt that a pair of these birds have

¹ Bulletin of the Nuttall Ornithological Club, Vol. III, No. 3, p. 131, July, 1878.

been in the vicinity during the past season. I first noticed them on February 24, being attracted by their small size, and for several weeks thereafter they were often seen, their peculiarities of note and habit at once distinguishing them from the common Crow. Their favorite resort seems to be a growth of tall and partially decayed locusts bordering a fresh-water pond, and on two of these trees standing together, somewhat apart from the others, the birds were to be found almost every morning, but, owing to their shyness and the openness of the ground, I was unable to approach within gunshot. In alighting, they usually chose the very topmost branches of the trees, and when approached manifested their suspicion by a restless and excited motion of the wings, which appeared to be more pointed than in the more stoutly built *C. Americanus*. Their note was an abrupt, expressionless croak, usually delivered singly and at regular intervals. Though other Crows were often seen in the vicinity, this pair kept aloof by themselves, and several times I saw them chased by a clamorous party of their larger relatives. Latterly, they have been rarely noticed, and then always singly, thus indicating that they are breeding in the vicinity."

In 1844, De Kay first gave the Fish Crows as inhabitants of New York State, observing² that "they are occasionally seen on the shores of Long Island, but are generally confounded with the Common Crow." His statement was not, until quite recently, fully substantiated, and has been quite generally discredited by writers. Mr. Clarence H. Eagle set the matter at rest, however, by publishing (in the Bulletin of the Nuttall Ornithological Club, Vol. III, No. 1, p. 47, for January, 1878) the following notice of its capture: "On the 17th of July, 1873, I shot a fine female of this species near Rockaway, L. I. The bird was flying around, but kept apart from a flock of Common Crows in the vicinity." Mr. Theodore Roosevelt furnished the next record of its capture on Long Island (Notes on some of the Birds of Oyster Bay, L. I., March, 1879). He says: "Dec. 30, 1874, I shot a male. There was then a good deal of snow on the ground. It was by itself, although the Common Crows were assembled in great flocks." Messrs. Louis A. Zerega and H. A. Purdie (see Bulletin N. O. C., Vol. V, No. 4, pp. 205 to 208, and 240, October, 1880) have recently thrown much light upon the northern distribution of this species, and it is now established to be a regularly breeding summer resident on Staten Island, where Mr. H. A. Wheeler has observed it from March to November, and observes that during the past five years he has always found it breeding on Staten Island, but seldom finds more than half a dozen nests in a season, if as many as that.

² New York Zoölogy, Part II, p. 135, 1844.

Mr. De L. Berier does not regard it as rare on Long Island. Mr. Zerega has found it to be a common permanent resident along the shore of Sandy Hook Bay and at Seabright, N. J., and infers that it breeds in those places.

I found a large flock of Fish Crows near Garden City, Long Island, N. Y., on October 29, 1880. There were others straggling about, but not associating with the Common Crows, which were also abundant.

Dimensions.—Measurements of No. 1,360, ♀ ad., May 7, 1876, Highland Falls, N. Y., E. A. M.: length, 16·00; stretch, 33·20; wing, 10·84; tail, 6·20; culmen, 1·37; gape, 1·65; tarsus, 1·85; middle toe, 1·30; its claw, ·47.

104. *Cyanocitta cristata* (Linné). BLUE JAY. A permanent resident; breeds. Large flocks move north in spring, and south in autumn.

Dimensions.—Average measurements of fourteen specimens: length, 11·74; stretch, 16·77; wing, 5·14; tail, 5·19; culmen, 1·09; gape, 1·20; bill from nostril, ·71; tarsus, 1·39; middle toe, ·79; its claw, 36. Average of eight males: length, 11·92; stretch, 16·96; wing, 5·23; tail, 5·27; culmen, 1·08; gape, 1·19; bill from nostril, ·70; tarsus, 1·45. Average of six females: length, 11·63; stretch, 16·66; wing, 5·08; tail, 5·14; culmen, 1·09; gape, 1·21; bill from nostril, ·72; tarsus, 1·38; middle toe, ·79; its claw, ·36.

Family, TYRANNIDÆ.

105. *Tyrannus carolinensis* (Linné). KINGBIRD; BEE-MARTIN. A common summer resident; breeds. Arrives during the first half of May (4, 1872; 14, 1873; 11, 1874; 9, 1875; 8, 1876; 13, 1877; 1, 1878; 9, 1879; 8, 1880), and remains until September.

Dimensions.—Average measurements of eleven specimens: length, 8·51; stretch, 14·61; wing, 4·64; tail, 3·55; culmen, ·74; bill from nostril, ·55; gape, ·98; tarsus, ·75; middle toe, ·57; its claw, ·28.

106. *Myiarchus crinitus* (Linné). GREAT-CRESTED FLYCATCHER. A common migrant, and rather abundant summer resident; breeds. Arrives in May (22, 1874, 16, 1875; 13, 1876; 23, 1877; 3, 1878; 9, 1879; 8, 1880), and stays till about the end of September (24, 1873; 19, 1875).

Great-crested Flycatchers are extremely pugnacious. I once shot one that was fighting with another of its species, and seemed to be a veteran warrior, for his rectrices were reduced to a single one, while his general appearance reminded me of that of a dissipated tom-cat. My shot only wounded it, and it flew upwards in a spiral, and then slowly descended to the ground in the same manner, screaming and snapping its bill, the whole distance. When I started to secure it, it

flew directly at me, biting, snapping its bill, and uttering piercing screams.

Dimensions.—Average measurements of six specimens: length, 9.01; stretch, 13.49; wing, 4.14; tail, 3.75; bill from nostril, .62; culmen, .77; gape, 1.09; tarsus, .84; middle toe, .50; its claw, .26.

107. Sayornis fuscus (Gmelin). PHOEBE-BIRD; PEWEE FLY-CATCHER. A common summer resident; breeds. Arrives early in March (17, 1871; 26, 1872; 19, 1873; 21, 1874; 29, 1875; 28, 1876 [26, de Nottbeck at Fishkill]; 26, 1877; 13, 1878; 13, 1879; 2, 1880), and remains until about the first of November (October 15, 1874; 23, 1876; 26, 1879). I have found its nest completed by April 10 (1880). In 1878, its full complement of eggs was laid April 20, and the first egg of their second brood was deposited on May 20th. A pair for several years built their nest in a shaft of an iron mine, in a dark and extremely humid situation; this nest contained no less than six eggs, on May 3, 1880.

Dimensions.—Average measurements of fourteen specimens: length, 6.99; stretch, 11.03; wing, 3.38; tail, 2.89; bill from nostril, .41; culmen, .60; gape, .75; tarsus, .67; middle toe and its claw, .59; toe alone, .40.

108. Contopus borealis (Swainson). OLIVE-SIDED FLYCATCHER. A common spring and fall migrant. Arrives late in May, and passes through before June (May 25 to 28, 1876; 25 to 29, 1877; 16 to 25, 1878; 9, 1879); seen in autumn from the 27th of August to the 18th of September (August 27 to September 18, 1875; September 5 to 15, 1876; September 1, 1879).

I first saw the Olive-sided Flycatcher in September, 1872, when I surprised several of them that were engaged in their favorite pastime of plucking each other in mid-air, amidst a din of screams and vituperations, and settled their quarrel by summarily disposing of two of the belligerents in my basket. Since then, I have found it nearly every spring and autumn, and frequently, during the latter season, in considerable numbers. In spring, when it is rather scarce, it is usually seen singly, or in pairs, perched upon a dry limb on top of some tall tree, sitting remarkably erect, with its crest raised. It is frequently very wild, and hard to shoot.

Dimensions.—Average measurements of five specimens: length, 7.39; stretch, 12.68; wing, 4.05; tail, 2.70; bill from nostril, .54; gape, .97; tarsus, .60; middle toe, .46; middle toe and its claw, .70.

109. Contopus virens (Linné). WOOD PEWEE. A common summer resident; breeds. Arrives from the South about the middle of May (12, 1873; 12, 1874; 11, 1875; 19, 1876; 17, 1877; 20, 1878; 14, 1879; 13, 1880), and takes its departure late in September (21, 1874; 14, 1876; 11, 1880).

Dimensions.—Average measurements of eight specimens: length, 6·53; stretch, 10·61; wing, 3·34; tail, 2·62; bill from nostril, ·42; culmen, ·65; gape, ·83; tarsus, ·50; middle toe, ·32; middle toe and its claw, ·48.

110. *Empidonax pusillus traillii* (Audubon). TRAILL'S FLY-CATCHER. A rather uncommon spring and fall migrant, and occasional in summer; probably breeds.

This active, noisy species is usually present during the latter part of May (12 to 31, 1875; 22 to 28, 1876; 25, 1878; 13, 1880), and passes south in autumn. Messrs. Roosevelt and Minot found it summering in the Adirondacks, in Franklin County, N. Y.³ Dr. Thomas M. Brewer described its eggs (Proceedings of the United States National Museum, p. 4, April 29, 1879) taken in Catskill mountains, N. Y., by Dr. James C. Merrill.

Dimensions.—Average measurements of three adult males: length, 6·09; stretch, 9·36; wing, 2·87; tail, 2·33; bill from nostril, ·35; gape, ·70; tarsus, ·66; middle toe and its claw, ·58; toe alone, ·42.

111. *Empidonax minimus* (Baird). LEAST FLYCATCHER. A very common summer resident; breeds. Reaches us from the South about the beginning of May (15, 1874; 10, 1875; 8, 1876; 7, 1877; 2, 1878; April 29, 1879, 26, 1880), and departs during the last of September and first part of October (latest observation October 8, 1874).

Dimensions.—Average measurements of twelve specimens: length, 5·41; stretch, 8·15; wing, 2·51; tail, 2·21; bill from nostril, ·31; gape, ·65; tarsus, ·65; middle toe and its claw, ·49; toe alone, ·32.

112. *Empidonax flaviventris* (Baird). YELLOW-BELLIED FLY-CATCHER. A common spring and fall migrant. Arrives early in May, and passes on before June (May 9, 1873; 31, 1875; 23 to 28, 1876; 17, 1877; 22, 1878; 14, 1879; 13, 1880). In autumn, passes south during September (latest observation September 28, 1875).

Dimensions.—Average measurements of seven specimens: length, 5·63; stretch, 8·70; wing, 2·65; tail, 2·16; tarsus, ·59.

Family, CAPRIMULGIDÆ.

113. *Caprimulgus vociferus* (Wilson). WHIPPOORWILL. A very common summer resident; breeds. Reaches us from the South about the beginning of May (April 23, 1872; May 6, 1873; 12, 1874; 10, 1875; 11, 1876; April 27, 1877; 24, 1878; May 4, 1879; April 22, 1880), and departs during September. My latest date is September 30, 1875, when I procured a female specimen. In 1878, its notes were heard during September, as late as the 23d. Its cry is not as

³The Summer Birds of the Adirondacks, in Franklin County, N. Y., No. "61," 1877.

frequently heard after the beginning of August, as during the early part of summer.

I append the following note from my journal: "May 14, 1877. This evening I approached a wall behind which a pair of Whippoorwills were crying; every minute they would fly out after insects, in small circles, immediately continuing their notes on settling again, so that scarcely any interruption was perceptible. Between each *whip-poor-will*, they uttered a cavernous *chuck* as usual, and then a low, guttural hollow *caw-ca-ca ca-ca — hic-hic-hic — ca-ca-tic*, etc. These ludicrous sounds, probably their love notes, were uttered in a low, hollow tone. I shot the male, at which the female flew close up to me, then removed a short distance, and commenced a loud *whip-poor-will* in seemingly a joyous tone; but this is probably their one way of expressing every strong emotion."

Dimensions.—Average measurements of seven specimens: length, 9·75; stretch, 18·60; wing, 6·08; tail, 4·65; culmen, ·37; bill from nostril, ·30; gape, 1·34; tarsus, ·70; middle toe, ·64; its claw, ·24.

114. *Chordeiles popetue* (Vieillot). NIGHTHAWK. A rather common summer resident; breeds. Arrives towards the end of April (May 12, 1872; April 14, 1873; May 15, 1875; 18, 1877; April 27, 1878; 18, 1879; May 3, 1880), and departs late in September (October 3, 1874; September 15, 1875; 15, 1876). Large flocks pass through during migrations.

Dimensions.—Measurements of No. 681, ♀ ad., May 17, 1875, E. A. M.: length, 10·00; stretch, 24·00; wing, 7·88; tail, 4·80; culmen, ·25; tarsus, ·55.

Family, CYPSELIDÆ.

115. *Chætura pelagica* (Linné). CHIMNEY SWIFT; "CHIMNEY SWALLOW." An abundant summer resident; breeds. Arrives about the end of April (28, 1872; May 6, 1873; 8, 1874; 3, 1875; 6, 1876; April 26, 1877; 28, 1878; May 4, 1879; April 27, 1880), and departs the last of September (30, 1877; 28, 1878; 29, 1879; 18, 1880).

Chimney Swifts begin to build during the last week of May, when they may be seen breaking off the small, dry twigs with which they build their nests, while on wing. The eggs are laid early in June. During migrations they associate in large flocks, roosting in some large, high chimney. They retire just at dusk, dropping down chimney very much as Rails settle into the grass.

Dimensions.—Average measurements of thirteen specimens: length, 5·43; stretch, 12·46; wing, 4·94; tail, 1·90; bill from nostril, ·15; gape, ·59; tarsus, ·49; middle toe, ·29; middle toe and its claw, ·45; claw alone, ·22.

Family, **TROCHILIDÆ.**

116. Trochilus colubris, (Linné). RUBY-THROATED HUMMING-BIRD. A common summer resident; breeds. Arrives early in May (2, 1872; 11, 1873; 10, 1874; 11, 1875; 6, 1876; 12, 1877; 4, 1878), and departs in September (29, 1874; 20, 1876; 25, 1880).

Our Humming-bird is fond of visiting the marshes along the Hudson. The bulrush-tops are sometimes used to line its nest with; and the flowers growing there are a great attraction. It is a very fierce little creature when angered. I have seen one attack a pair of Downy Woodpeckers upon the tree which it had chosen for its nest, and drive them off, exhibiting the utmost rage. Once I saw one dart furiously at a small red balloon which a boy was flying in a field. It often alights on telegraph wires.

Dimensions.—Average measurements of six specimens: length, 3·74; stretch, 4·12; wing, 1·54; tail, 1·15; culmen, ·67; gape ·80; tarsus, ·18; middle toe and claw, ·24.

Family, **ALCEDINIDÆ.**

117. Ceryle alcyon (Linné). BELTED KINGFISHER. A common summer resident; breeds. Arrives in March (26, 1872; 31, 1873; 18, 1874; April 2, 1875; 11, 1876; March 26, 1878; April 9, 1879; 5, 1880), and stays till late in November (4, 1874; 30, 1878). It probably occurs on the lower part of the river in winter.

Dimensions.—Average measurements of fourteen specimens: length, 13·02; stretch, 22·16; wing, 6·17; tail, 3·60; bill from nostril, 1·85; gape, 2·92; tarsus, ·42; middle toe, ·59; its claw, ·38.

Family, **CUCULIDÆ.**

118. Coccyzus erythrophthalmus (Wilson). BLACK-BILLED CUCKOO. A very common summer resident; breeds plentifully. Arrives in May (13, 1874; 20, 1875; 20, 1876; 13, 1877; 4, 1878; 9, 1879; April 26, 1880), and stays through September (25, 1874; 16, 1879).

It begins nesting in May. The young are covered with curious-looking pin-feathers, which gives them an appearance like that of the wire swab used in gun-cleaning. The old bird is a close sitter, and, when obliged to leave its nest, moves off slowly upon the branches, with wings and tail outspread. Sometimes it will come quite close to the observer, and then utter for several minutes a low, mournful *coo, coo, coo, coo*, and then an outpouring of harsh, loud notes that quickly bring the mate to its side, all the while keeping its wings and tail ex-

panded, and crouching low upon the branch. Its ordinary notes are quite commonly heard at night as well as during the day.

Dimensions.—Average measurements of nine specimens: length, 11·83; stretch, 16·55; wing, 5·50; tail, 6·26; bill from nostril, ·74; gape, 1·27; tarsus, 1·02; middle toe, ·79; middle toe and its claw, 1·06.

119. *Coccyzus americanus* (Linné). YELLOW-BILLED CUCKOO. A summer resident; breeds; much less numerous than the Black-billed Cuckoo. Arrives early in May (14, 1876; 6, 1878; 10, 1880), and stays until late in September (23, 1874).

Dimensions—Average measurements of four female specimens: length, 12·20; stretch, 17·04; wing, 5·70; tail, 6·20; bill from nostril, ·76; gape, 1·31; tarsus, 1·10.

Family, PICIDÆ.

120. *Picus villosus* (Linné). Hairy Woodpecker. A permanent resident; sometimes abundant; breeds, but not plentifully. A nest which I found on Consook Island, in the Hudson River, on May 5, 1878, was built in a natural cavity in a small tree, about four feet from the ground, and contrary to Hairy's usual habit, it was warmly built of grass and strips of bark, whereas the eggs are commonly deposited right on the chips, without any attempt at a nest. The entrance was through a knot-hole, and neither it nor the interior had been enlarged by the birds. The nest rested on a mass of decayed black muck at the bottom of the hole.

Dimensions.—Average measurements of twelve specimens: length, 9·40; stretch, 15·66; wing, 4·78; tail, 3·30; culmen, 1·22; bill from nostril, 1·00; gape, 1·32; tarsus, ·84; middle toe, ·57; its claw, ·40.

121. *Picus pubescens* (Linné). Downy Woodpecker. A permanent resident; abundant; breeds.

The Downy Woodpeckers, though always abundant, are especially so during the first warm days of spring-time, when they become almost gregarious, and are apparently on the move northward. Their full complement of eggs is usually deposited during the first two weeks of May, although I have found their eggs as late as May 30 (1876).

Downy is a very active, industrious bird, and perhaps this is the reason why he experiences no special discomfort from cold during the bleak winter season. At night he is comfortably housed in a hole, which he digs expressly for that purpose. What a knowing cove he is! Always, so far as my experience goes, he places the entrance to his burrow so as to face the sunny south. Though Downy is a wanderer like the rest of his tribe, yet, whenever he takes a journey into a far

country, his first labor is to construct a home wherein to spend the cold, dark night. I have often watched him at work, and have found that he is apt to remain for several days in the vicinity of his burrow. Let me give a chapter of Downy's history, copied from my note-book: I first saw him at half-past four o'clock, on the afternoon of February 20, 1878. At that time he had burrowed a very little way into a pear-tree — just made a beginning — at a height of about four feet from the ground. When I returned, in less than a couple of hours, he had entirely disappeared from view, except when he came to the top of his mine, and dropped the chips which resulted from his labors down below. When I visited the place by daylight, I found a smoothly-finished cavity such as is used for the purpose of nidification, and the ground covered with chips, but no Downy was in sight. Shortly after sunset I again visited the nest, and found him snugly ensconced within the cavity, with his bill warmly tucked away amongst the feathers, which latter were ruffed up so as to look like a black and white ball, with a red-napped head tucked in the middle. While sleeping, his whole frame heaved at every breath, so profound was his slumber. I summoned a friend to come and see my Woodpecker: after watching him a while, our voices awoke him, when he flew swiftly out, and lit upon a pear-tree close by, whence, after a lapse of five minutes, during which time he remained perfectly motionless, he returned to the burrow.

March 1st, I visited Downy at 5.50 o'clock A. M., and found him still sleeping soundly, although the Bluebirds were already singing, and the Crows flying in flocks overhead. I waited for one hour to find out his time of rising. At 6.50 o'clock, I heard an admonitory tapping upon the inside of the tree — a waking-up process analogous to our bathing and dressing, doubtless. A moment later, his head appeared at the entrance to his burrow, whence, after a jerky salutation to the first sunrise of spring, he hied him forth to his day's toil. At first, he lit on a pear-tree near by, tapped sleepily at the branch, ascended to the top of it, looked curiously at me, and then took a long flight over into the woods, where I soon heard his loud notes. *Downy is not an early riser!* On March 3d, I made the following note: "This evening at half-past five o'clock, I visited the Downy Woodpecker, and found him sound asleep in his hole, clinging to the side of the cavity, with head thrown over to one side and nestling amongst the feathers, showing conspicuously the crimson feathers of the nape. The feathers of the breast were deeply creased down the middle. As my warm breath reached him, his chest stopped heaving, and, with a swiftness that was astonishing as contrasted with his previous deep slumber, he threw out his neck and head, but, as I instantly retired, he did not leave the burrow, nor, probably, find out

what had awakened him. He retires to the burrow every evening at sunset, or sooner. On March 6th, I noted: "A female Bluebird was worrying and making a great disturbance about the Downy's hole, which she, apparently, had occupied during the day, but which he had again appropriated to sleep in. All of the Snowbirds in the neighborhood had assembled, and were contributing to the fracas all that they were able in the way of din; meanwhile, *Picus* looked out of the circular entrance to his house, collected and calm, but flew away at my approach to the woods and did not return till late.

Dimensions.—Average measurements of twenty-nine specimens: length, 6·83; stretch, 11·98; wing, 3·70; tail, 2·53; culmen, ·68; gape, ·79; tarsus, ·65; middle toe and its claw, ·60.

122. *Sphyrapicus varius* (Linné). YELLOW-BELLIED WOODPECKER. Resident, except during the summer months; abundant during spring and fall migrations, but rarer in winter.

This handsome Woodpecker is frequently seen in our forests and orchards. Like most of its family, it possesses a variety of notes, one of which resembles the common cry of the Blue Jay. Mr. Peter de Nottbeck informed me that he has frequently found it during autumn, eating the corn in the fields; it was while thus feeding that he usually secured his specimens. Early in October, 1880, I saw these birds migrating along the beach, at Great South Bay, Long Island, in large numbers. Sometimes they lit on the low pines, or even on the ground. They were passing westward in straggling flocks which were almost constantly in view.

Dimensions.—Average measurements of nineteen specimens: length, 8·56; stretch, 15·37; wing, 4·87; tail, 3·20; culmen, ·92; gape, 1·07; tarsus, ·78; middle toe and its claw, ·85.

123. *Centurus carolinus* (Linné). RED-BELLIED WOODPECKER. Occasionally found in summer. I recorded (in the Bulletin of the Nuttall Club, Vol. III, No. 3, p. 146, 1878) the capture of a specimen at Cornwall, on the Hudson, in September, 1870. A second specimen was shot at Cold Spring, on the Hudson, by Mr. Francis Butterfass.

124. *Melanerpes erythrocephalus* (Linné). RED-HEADED WOODPECKER. Occurs during spring and fall, and more rarely in winter. Not known to breed in the Highlands, but breeds commonly a little to the west of them. Occasionally, the young are quite numerous in autumn; but the species is rarely met with at other seasons.

Dimensions.—Average measurements of nine specimens: length, 9·75; stretch, 17·90; wing, 5·52; tail, 3·30; culmen, 1·17; gape, 1·37; tarsus, ·87; middle toe, ·72; its claw, ·39.

125. *Colaptes auratus* (Linné). GOLDEN-WINGED WOODPECKER. FLICKER; HIGH-HOLE. A permanent resident, but of irregular occurrence, and generally rare in winter; breeds plentifully. Arrives in

full force during March; has its first brood on wing by the middle of June; departs before December, excepting those which spend the winter north.

Dimensions.—Average measurements of fifteen specimens: length, 12·60; stretch, 20·75; wing, 6·25; tail, 4·63; culmen, 1·42; gape, 1·57; tarsus, 1·14; middle toe, ·87; middle toe and its claw, 1·27.

Family, STRIGIDÆ.

126. *Bubo virginianus* (Gmelin). GREAT HORNED OWL; "HOOT OWL." A permanent resident; breeds. Have heard its notes at mid-day, in cloudy weather.

Dimensions.—Average measurements of two male specimens: length, 21·44; stretch, 53·88; wing, 14·48; tail, 8·63; culmen, measured from frontal feathers, 1·55; from cere, 1·10; tarsus (about), 2·30; middle toe, 2·00; its claw, 1·12.

127. *Scops asio* (Linné). SCREECH OWL; MOTTLED OWL. A permanent resident; abundant; breeds.

On May 30, 1875, I found a Screech Owl's nest in the hollow bole of a buttonwood-tree, about fifteen feet from the ground. On thrusting my hand into the cavity, it was instantly seized by the old bird, which I drew out of the hole and flung away from me with the utmost dispatch, without reflecting that I was allowing an interesting specimen to escape; but I removed one of the younglings, and afterward captured both of the parents, which were in the gray plumage, as were their three young. Two of the young were kept all summer as pets, and were allowed perfect freedom; towards autumn they left the place, but one of them was found in the woods and brought back, but soon left us again; they were never heard of afterwards. The parent birds were shot at night. On my first nocturnal visit, both birds flew close about my ears, and uttered a curious, deep, guttural sound, like one of the notes of the Black-billed Cuckoo (*Coccyzus erythrophthalmus*); sometimes they darted with great swiftness close to my head, and snapped their bills sharply as they passed. I killed the female, and shot the male on the following night, when I was assailed in the same manner as on the previous evening.

On the following season, a pair of Golden-winged Woodpeckers (*Colaptes auratus*) took possession of the owl-tree, and held it until the spring of 1879, when I was again attacked by a pair of Screech Owls, when walking past the tree one dark night. On examination, a single young bird, and an addled egg, were found in the tree; the latter was, of course, appropriated on the spot. The old birds snapped their bills as usual, but also uttered an indescribable cry which was new to me. A few days later, I visited the nest in the day-

time, and captured the female in the hole along with the young one. After a prolonged search, the male was descried sitting in the crotch of a white-oak tree, in the midst of a clump of branchlets; his "ears" were very conspicuous, and his neck fully extended, as he attempted to obtain a better view of me. Both parents were red; but the young one was gray, like those obtained from the same tree four years previously.

The red, and gray-plumaged birds are about equally numerous. Some specimens are intermediate.

Dimensions.—Average measurements of nine specimens: length, 9·40; stretch, 23·61; wing, 6·40; tail, 3·09; culmen, ·63; gape, ·98; tarsus, 1·54; middle toe, 1·80; its claw, ·48.

128. *Asio americanus* (Stephens). AMERICAN LONG-EARED OWL. A permanent resident; breeds. Mr. Francis Butterfass informed me that it was abundant about Cold Spring, where he often shot specimens. It breeds on Constitution Island, where I surprised a family of young ones, accompanied by their parents. It was at mid-day; the Owls sat in a group, with necks elongated, and ears erect. The sun shone bright, but, when disturbed, they flew without apparent inconvenience.

Dimensions.—Measurements of No. 2,021, ♂ ad. April 9, 1880, Constitution Island, Hudson River, N. Y., E. A. M.: length, 14·30; stretch, 36·00; wing, 11·00; tail, 6·00; culmen measured from frontal feathers, 1·06; bill from nostril, ·54; gape, 1·20; tarsus, 1·55; middle toe, 1·11; middle toe and claw, 1·65. Measurements of No. 2,062 ♀ ad. June 23, 1880, Constitution Island, E. A. M.: length, 14·90; stretch, 37·75; wing, 11·00; tail, 6·40; culmen measured from frontal feathers, 1·15; from cere, ·70; gape, 1·32; tarsus, 1·68; middle toe and claw, 1·85.

129. *Asio accipitrinus* (Pallas). SHORT-EARED OWL. Occasional in spring and fall.

130. *Strix nebulosa* (Forster). BARRED OWL. A permanent resident; breeds. Its notes may sometimes be heard during day-time.

Dimensions.—Measurements of No. 1,328, ♀ ad. October 23, 1876, Highland Falls, N. Y., E. A. M.: length, 19·25; stretch, 44·75; wing, 12·00; tail, 8·88.

131. *Nyctea scandiaca* (Linné). SNOWY OWL. Occasional in winter. One was captured in Orange County, about January 20, 1877. Has been reported from numerous points along the Hudson as far up as Fort Edward, in Washington County.

I saw this splendid Owl in the wild state on the 29th of October, 1880, near Garden City, on Long Island, N. Y. It flew from near the railroad: watching it from the car, I saw it alight on the ground amongst some sandy knolls, covered with red bunch-grass. On arriv-

ing at the nearest station, I started back, for the purpose of shooting it, but was disappointed in not finding it where it was seen from the train. It was found, however, about a mile farther east, surrounded by Crows (*Corvus americanus*), upon a sandy spot, where it looked like a patch of snow, in the midst of its black tormentors. The Crows scattered as I approached, and the Owl also flew slowly off, keeping just above the grass. It was followed by a part of the Crows, and soon lighted amongst the tussocks of grass. I crept up to within range, and shot it with No. 4 shot, and gave the hindmost of the retreating Crows the benefit of the left barrel, which was loaded with Bs. The Owl was not dead when I reached it, but made a fine display of courage when caught. Its eyes were wonderfully bright and full of fire; and it snapped its bill, and clawed fiercely; I offered it an empty shell, when reloading, which it seized and bit viciously. It uttered a squealing and also a grunting noise.

Dimensions.—Measurements of No. 815, ♂ ad. December 1, 1875 (shot on the south side of Long Island, N. Y., by Wm. Birch): length, 23·50; stretch, 58·31; wing, 14·75; tail, 9·38. Its stomach was distended with feathers. Measurements of No. 2,108, ♂ ad. October 29, 1880, Garden City, Long Island, E. A. M.: length, 22·85; stretch, 59·00; wing, 15·75; tail, 9·50; culmen, measured from frontal feathers, 1·53; from cere, 1·00; gape, 1·98; tarsus (about), 1·90; claw of the middle toe, 1·18. Stomach entirely empty.

Family, **FALCONIDÆ.**

132. *Circus hudsonius* (Linné). MARSH HAWK. A permanent resident; breeds. It occurs regularly in winter; particularly numerous in that of 1874–75, when numbers were observed in the bluish plumage. It breeds upon the marshes which connect Constitution, Consook and Iona islands to the main-land. One nest on Consook Marsh, which had been recently deserted by the young, was placed in the middle of the marsh; the ground around it was packed hard, and was bare of grass.

133. *Accipiter fuscus* (Gmelin). SHARP-SHINNED HAWK. A permanent resident; breeds.

Next to the Broad-winged, this is our most abundant Hawk. It builds upon trees, for the most part, though some nests are placed on ledges of rocks. During the spring movement, this species sometimes migrates in large flocks.

Dimensions.—Average measurements of three males: length, 11·45; stretch, 21·00; wing, 6·60; tail, 5·37; gape, ·65; tarsus, 1·96; middle toe, 1·19. Measurements of female: length, 14·00; stretch, 25·75; wing, 7·70; tail, 6·65; tarsus, 2·11.

134. *Accipiter cooperi* (Bonaparte). COOPER'S HAWK. A summer resident. Probably occurs in winter. Breeds abundantly.

I found a nest May 10, 1876, and fired a charge of dust shot into it to make it certain whether the nest was occupied, or not; the parent bird flew swiftly away, and, though I waited a long time for its return, it did not come back. Visiting the nest another time, I shouted and made as much din as possible about the tree; after a while the bird arose and looked over the edge of the nest, and then resumed its place upon it; a moment later it flew swiftly away. I fired after it, and the shot took effect in its breast and head; stretching its legs away down, and raising its wings high and beating them swiftly, it moved slowly in a wide circle, very high in the air; it came around above the nest, and then dropped just at my feet. Although not very severely injured, it made no display of courage. The nest, built in the quadruple fork of a chestnut-tree at a height of about forty feet, was composed of sticks, all of which were of small size; there was not a feather in it, and no pretence of a lining, save a few pieces of white-oak bark; its depression was slight. The eggs, four in number, were quite fresh: white, with a strong greenish tinge, with a few brown blotches on two of them.

A nest found May 2, 1878, was built in a basswood-tree (*Tilia americana*), beside a swampy pool in the midst of a wood. When approached, the female left her nest, and alighted on the opposite side of the morass; she was joined by her mate, and both set up a singular barking cry, repeated in rapid succession, and resembling, as much as anything, the prolonged utterance of the Flicker (*Colaptes auratus*). Then the male approached, and, circling overhead, lit on a tree near the nest, but soon retreated to the opposite side of the pool; both birds continuing their singular cry. The male bird was shot as he soared overhead, and his mate withdrew, and did not return that day. The nest was somewhat bulky, and contained four eggs. It was rather more concave than usual; built of small sticks, lined with a few pieces of rough bark, with no additional materials. The eggs differed from those previously described only in having no spots, which latter are unusual.

One nest contained only three eggs.

Dimensions.—Measurements of No. 1,226, ♀ ad., May 10, 1876, Highland Falls, N. Y., E. A. M.: length, 19.75; stretch, 35.00; wing, 10.13; tail, 8.75.

135. *Astur atricapillus* (Wilson). AMERICAN GOSHAWK. A winter resident, and spring and fall migrant. Seen in spring as late as April 28 (1877).

The Goshawk is rather frequently met with; but, owing to its shyness, is rarely killed. I obtained a single specimen from the Catskil.

mountains; and Mr. Wm. Church Osborn procured one at Garrisons, on the Hudson. Miss Anna B. Warner obtained a fine adult male on Constitution Island, on December 27, 1880. The gunners occasionally kill one. It likes to stay about the river marshes in winter.

Dimensions.—Measurements of No. 2,005, ♀ juv. December 2, 1879, Catskill mountains, N. Y., E. A. M.: length, 23·75; stretch, 44·25; wing, 13·10; tail, 11·00; culmen, ·90; gape, 1·40; tarsus, 2·88; middle toe, 1·81; its claw, ·77. Measurements of No. 2,170, ♂ ad., December 27, 1880, Constitution Island, Hudson River, N. Y., E. A. M.: length, 21·50; stretch, 41·50; wing, 12·50; tail, 9·50; tail, 9·50; culmen, measured from frontal feathers, 1·12; from cere, ·83; cere, ·40; gape, 1·25; tarsus, 2·88; middle toe and claw, 2·23; middle toe alone, 1·75; its claw, ·67; hallux, ·97; its claw, 1·08; inner toe, 1·00; its claw, 1·00; outer toe, 1·12; its claw, 53. Iris, bright carmine.

136. *Falco peregrinus nævius* (Gmelin). DUCK HAWK; AMERICAN PEREGRINE FALCON. A permanent resident; breeds.

I saw a fine mounted specimen in the possession of Mr. Daniel Ward, of Cornwall, which was shot while sitting upon a willow-tree in front of his residence, beside the Hudson. I have seen it frequently, but, chiefly through lack of skill in the use of the gun, have killed no specimens in the Highlands, though I procured one on the beach opposite Sayville, on Great South Bay, Long Island, on the 6th of October, 1880. There were several Duck Hawks on the beach, preying on small birds. The specimen shot had been feeding upon various passerine birds, which had first been roughly picked, and swallowed in large pieces. Whole legs of the Robin, Alice's Thrush, Catbird, and Warblers were found in its crop.

Upon the cliffs between West Point and Cornwall, the young are sometimes seen or heard; but the nest has not been found, and would probably prove to be inaccessible should it be discovered.

Dimensions.—Measurements of No. 2,100, ♀ juv. October 6, 1880, Sayville, Long Island, N. Y., E. A. M.: length, 19·40; stretch, 45·50; wing, 14·00; tail, 8·25; culmen from frontal feathers, 1·09; from cere, ·85; cere alone, ·30; bill from nostril, ·81; gape, 1·85; tarsus, 2·23; middle toe and claw, 2·78; toe alone, 2·15; claw, ·75.

137. *Æsalon columbarius* (Linné). PIGEON HAWK. By no means rare in autumn, winter and spring. My only specimen taken in the Highlands was shot in the act of destroying a hen.

Dimensions.—Measurements of No. 2,085, ♀ juv. September 16, 1880, Highland Falls, N. Y., E. A. M.: length, 12·60; stretch, 26·40; wing, 8·25; tail, 5·75; bill, measured from frontal feathers, ·72; from cere, ·59; from nostril, ·54; gape, ·85; tarsus, 1·57; middle toe, 1·45; middle toe and its claw, 1·80; claw alone, ·48.

138. *Tinnunculus sparverius* (Linné). SPARROW HAWK. A

rare resident species. Never abundant except occasionally during migrations.

On February 18, 1879, Dr. Clinton L. Bagg saw a Sparrow Hawk at the foot of 110th street, at the East River in New York City, where it seemed to be chasing the House Sparrows (*Passer domesticus*). It appeared to be in nowise frightened at the numerous workmen about the docks, and flew about amongst them, and out over the river, frequently perching on some iron pillars on shore.

Dimensions.—Measurements of No. 1,355, ♂ ad. April 25, 1877, Highland Falls, N. Y., E. A. M.: length, 10·42; stretch, 22·38; wing, 7·37; tail, 4·85; culmen, measured from cere, ·45; gape, ·70; tarsus, 1·40; middle toe and claw, 1·21.

139. *Buteo borealis* (Gmelin). RED-TAILED HAWK. A permanent resident; abundant; breeds.

This handsome Buzzard feeds on mice, moles and shrews, which it finds in meadows. Though it likes to sit on a hay-pole and swoop down upon such small fry, it is often quite formidable, carrying off fowls from the barn-yards. It is able to capture even the Ruffed Grouse (*Bonasa umbellus*). I once saw a Red-tail fly a quarter of a mile, bearing a full grown Ruffed Grouse in its claws. I followed, and fired a shot at it, which caused it to let its prey drop to the ground from the tree where it was feeding; it afterwards appeared to regret leaving the Grouse, which was quite neatly picked, and had one side of the breast partly eaten.

Mice, shrews and moles are especially abundant upon the salt marshes which join numerous so-called islands in the Hudson River to the main-land. Upon the edges of these marshes and on the hay-poles, our three Buzzard Hawks (*Buteo borealis*, *B. lineatus* and *B. pennsylvanicus*) are ever present during the hard times in winter, hungry and shy, and ever ready to pounce upon the first unlucky quadruped that makes its appearance on the scene. It is pleasant to see them swoop upwards from the ground and alight upon a haystack, closing their wings instantly as their strong claws grasp the top of the pole, and striking at once a perfect balance, without a wing-stroke or a sudden movement.

Dimensions.—Measurements of adult female: length, 21·90; stretch, 51·00; wing, 14·75; tail, 9·00; culmen, 1·07; cere, ·54; gape, 1·80; tarsus, 3·34; middle toe, 1·60; its claw, ·88.

140. *Buteo lineatus* (Gmelin). RED-SHOULDERED HAWK. A permanent resident; abundant; breeds.

141. *Buteo pennsylvanicus* (Wilson). BROAD-WINGED HAWK. Our most abundant Hawk. A permanent resident, but only occasional in winter; breeds.

Migrants begin coming early in March, and, ere long, large flocks

appear, flying swiftly overhead, or soaring circularly. On wing, it gives several screams uttered in rapid succession, followed by a squealing note. It feeds on small quadrupeds, and salamanders. None of the numerous specimens dissected contained feathers, or other evidence of its feeding on birds.

In the spring of 1871, a nest was built in the wood adjoining my house, from which I took one of the young birds; it became a very interesting pet, quite gentle, and fond of me, but refusing to submit to being handled by any one else; but it was prone to wander abroad, and so was lost.

On May 8, 1872, I shot a male Broad-winged Hawk upon its nest, wounding it badly. It clawed me severely when I attempted to capture it. The nest was simply a repaired Crow's nest, from which I had taken a suite of eggs the year previously. The eggs, as in every nest that I have seen, were two in number. I shot the female several days later, and found it to be in immature plumage, although mated with an old bird. During the same season, another pair built a nest in the same wood, but both birds were shot before the eggs were laid. This nest became the home of still another pair of Broad-wings on the following season. They laid only two eggs, which were remarkable for being almost unspotted. When I climbed to the nest, the male bird flew to a branch over it, uttering loud, squealing cries, and thence darted swiftly past me, in uncomfortably close proximity to my head, so that I could feel the rush of air when he passed; then, perching above me again, he would lower his head, partly spread his wings, and incline his body downwards, uttering a whining whistle as he prepared to make another swoop. He looked very formidable. I heartily wished myself at the bottom of the tree. Only when I had reached the nest did the female leave it; then she merely withdrew to an adjoining limb, and replaced herself upon the nest as soon as I began to descend. Then the anxiety of the male (greatly to my delight) appeared to be much lessened. I left the eggs, hoping that more would be deposited, but in this I was disappointed. Several days later, I took the eggs, and found embryos considerably developed.

This Hawk commonly selects a deserted Crow's nest to build upon; but I have known them, several times, to build a new nest. I have twice found immature birds breeding, in which the stripes covered the belly.

Dimensions.—Average measurements of two *adult males*: length, 15·85; stretch, 35·85; wing, 10·58; tail, 6·65; culmen, measured from cere, ·74; cere, ·48; tarsus, 2·50; middle toe, 1·33; middle toe and claw, 1·84; claw alone, ·65. Average of three *adult females*: length, 17·08; stretch, 37·65; wing, 11·75; tail, 7·03; culmen, measured from

cere, .77; cere, .50; tarsus, 2.75; middle toe and claw, 1.90; claw alone, .64. Average of two *young males*: length, 15.93; stretch, 35.62; wing, 10.78; tail, 6.85; culmen measured from cere, .68; cere, .45; gape, 1.20; tarsus, 2.35; middle toe and claw, 1.70; toe alone, 1.18; claw, .58. Average of two *young females*: length, 16.45; stretch, 36.69; wing, 11.08; tail, 7.15; culmen measured from frontal feathers, 1.12; from cere, .77; bill from nostril, .72; gape, 1.37; tarsus, 2.43; middle toe and claw, 1.83; middle toe, 1.33.

142. *Archibuteo lagopus sancti-johannis* (Gmelin). AMERICAN ROUGH-LEGGED HAWK. Occurs rarely during migrations. I have also found it at Fort Miller, on the Hudson, in November, 1876.

143. *Pandion haliaëtus carolinensis* (Gmelin). AMERICAN OSPREY; FISH HAWK. A common spring and fall migrant; occasional during summer. Its nest was found upon the cliffs north of West Point, many years ago. A few years since, Mr. Harold Herrick found a nest near Yonkers, on the Hudson, which contained eggs.

Dimensions.—Average measurements of four specimens: length, 23.10; stretch, 64.00; wing, 18.25; tail, 8.40.

144. *Aquila chrysaëtus canadensis* (Linné). AMERICAN GOLDEN EAGLE. Occasionally observed during spring, autumn and winter. It was formerly known to nest upon the cliffs on the west side of the Hudson, north of West Point; and it is not impossible that it still does so. Two Golden Eagles have been shot in the Highlands during the past few years. I have seen it on several occasions, but never in summer. In March, 1876, two of these Eagles were found in a certain spot in Putnam County for several weeks, but I did not succeed in shooting them. In April, 1872, I saw one twice, whose tail was all white, save a narrow terminal bar of black.

145. *Haliaëtus leucocephalus* (Linné). WHITE-HEADED EAGLE. A permanent resident; breeds.

The White-headed or Bald Eagle constitutes a marked and romantic feature of the superb scenery of this part of the Hudson, lending another charm to a scene already grand and impressive, but rendered sublime and awe-inspiring by the presence of this noble bird, seen perched upon some blasted tree above the massive cliffs, or soaring in higher atmospheric regions, far above reach of the coming tempest, while its shrill scream falls faintly upon the ear, answering the loud, quavering cry of its nearer mate.

In winter, when the river is frozen, the Eagles are seen soaring above the mountains, searching for the scanty prey upon which they are obliged to subsist when fish, their favorite food, is unattainable; but later, when the ice is in motion in the Hudson, carried swiftly by the current, numbers of them may be seen sitting in pairs upon trees low down by the river's edge, watching for their finny prey, or else

floating upon the ice in the stream, in company with Crows and Gulls. In summer, their favorite perch is upon some withered tree on the mountain's side, from which, at intervals, they descend to the river, or some secluded lake, to seek their food. When the ice first breaks up in the Hudson, the Eagles are sometimes extremely abundant. At that season I have counted more than twenty-five that were in view at once.

Dimensions.—Average measurements of two *adult males*: length, 32·85; stretch, 84·10; wing, 22·00; tail, 11·90; bill from frontal feathers, 2·48; cere, ·74; gape, 2·77; tarsus, 3·50; middle toe, 2·72; its claw, 1·37; inner toe, 1·66; its claw, 1·62; outer toe, 1·86; its claw, 1·17; hallux, 1·53; its claw, 1·69. Weight, 10 lbs., 4 oz., avoird. Average measurements of two *adult females*: length, 35·50; stretch, 89·00; wing, 24·00; tail, 12·25. Weight, 12 lbs., avoird.

Family, COLUMBIDÆ.

146. *Ectopistes migratoria* (Linné). PASSENGER PIGEON. A permanent resident. A few breed; and a few occur in winter.

Dimensions.—Average measurements of five *adult males*: length, 16·67; stretch, 24·30; wing, 7·88; tail, 7·80; culmen, ·72; gape, 1·12; tarsus, 1·14; middle toe, 1·16; its claw, ·37; middle toe and claw, 1·50. Average measurements of five *adult females*: length, 15·92; stretch, 23·96; wing, 7·76; tail, 7·27; culmen, ·70; gape, 1·06; tarsus, 1·07; middle toe, 1·09; its claw, ·35.

147. *Zenædura carolinensis* (Linné). MOURNING DOVE; CAROLINA DOVE. A permanent resident; breeds. Only occasional in winter.

Dimensions.—Average measurements of five specimens: length, 11·85; stretch, 17·90; wing, 5·72; tail, 5·50; culmen, ·53; bill from nostril, ·36; gape, ·76; tarsus, ·86; middle toe, ·80; its claw, ·24; middle toe and claw, 1·00.

Family, TETRAONIDÆ.

148. *Bonasa umbellus* (Linné). RUFFED GROUSE; PHEASANT; PARTRIDGE. An abundant resident species; breeds.

Family, Perdiciidæ.

149. *Ortyx virginiana* (Linné). AMERICAN QUAIL; BOB-WHITE. A permanent resident; breeds.

BULLETIN

OF THE

ESSEX INSTITUTE.

VOL. 12. SALEM, OCT., NOV., DEC., 1880. Nos. 10, 11, 12.

REGULAR MEETING, MONDAY, JULY 5, 1880.

ADJOURNED to Thursday, July 8. PRESIDENT in the chair. Records read. Correspondence and donations announced.

Rev. G. M. Harmon, of Peabody, was elected a resident member.

Adj.



REGULAR MEETING, MONDAY, JULY 19, 1880.

MEETING this day at 7.30 p. m. The PRESIDENT in the chair. Records read. Correspondence and donations announced.

B. O. Pierce, of Beverly, and Ira J. Potter, of Ipswich, were elected resident members.

Adj.

May 17, 1881

FIELD MEETING AT BRADFORD, FRIDAY, JULY 30, 1880.

By the polite invitation of Dr. George Cogswell of Bradford, an associate member of the Institute, a meeting was held at the Riverside Farm, in that town, this day. The weather was remarkably fine, and the attendance large. The Farmers' and Mechanics' Institute of Haverhill and Bradford joined in the exercises of this interesting occasion. The members and their friends from Salem and vicinity left the Eastern railroad station at 8.15 A. M., in a special train for Danvers, thence by the Boston & Maine railroad to Bradford, arriving at 9.30 A. M. Barges and other vehicles were in readiness to take the party, some two or three miles above the village, to the grounds of Dr. Cogswell, which are situated very attractively upon a bend in the Merrimac river, and consists of several hundred acres. From the house is an extensive view of the river with its interesting traditions and lovely scenery. The city of Haverhill being built upon a gentle acclivity, the houses and other buildings being interspersed with trees, gives an additional charm to the prospect. A short drive beyond the house brought the party to a large grove, where the tables for the lunch were placed, and which was the headquarters for the forenoon.

As the dinner hour approached, the ramblers who had wandered hither and thither, about the woods and on the banks of the river in search of specimens, returned, and lively groups gathered around the tables.

THE BRADFORD ACADEMY

is the venerable, highly esteemed, and cherished institution of this town, and has its origin and outgrowth in the deep interest among the parents in mental and

moral culture, and a desire that female education especially should be advanced; the privileges, that the children to-day enjoy, did not then exist. Incorporated in 1803, a building was erected, and the preceptor elected was *Rev. Samuel Walker*, a native of Haverhill, a graduate of Dart. Coll., 1802, and the minister of the South Church, Danvers, now Peabody, from 1805 to his death, July 6, 1826. *Rev. James Flint*, who was the pastor of the East Church, Salem, from 1820 to his death, March 4, 1855, was the third principal.

Benjamin Greenleaf was the fourth principal, from Dec. 12, 1814 to April 6, 1836. During this period, it obtained a wide and most honorable reputation. In 1828, the school was divided into a male and female department, Mr. Greenleaf had charge of the former, and Miss Abigail C. Hasseltine of the latter.

In 1836, Mr. Greenleaf retired. The male department was then closed, and the Institution was devoted entirely to the education of females. Mr. Greenleaf then took charge of the Bradford Teachers' Seminary, and continued at its head till its discontinuance in 1848, when his professional labors as a teacher closed. As an author, he was very widely, eminently, and honorably known; while the number of his pupils went up into the thousands, the number of copies of his text-books went up into the millions; he died Oct. 29, 1864.

Miss Abigail Carleton Hasseltine, born in Bradford, March 15, 1788, a graduate of the school, appointed assistant teacher in the summer of 1815, principal of the female department in 1828, retired in the autumn of 1852, died January 13, 1868,—the beloved teacher and friend, and whose name is cherished in thousands of homes to-day,—contributed largely to the success of the Institution.

This Academy has done much in sending out an educated influence in domestic and social life, in ways that cannot be tangibly measured. It was in this school that Ann Hasseltine and Harriet Atwood were educated. *The first* was the youngest sister of the principal above named; she was brilliant and gifted, and married Rev. Adoniram Judson, who was ordained at the Tabernacle Church in Salem in 1812, and sailed with his wife immediately afterwards to Calcutta. She was a remarkable woman, passed through many trials and exciting experiences, and wrote a history of the Burmah mission; she died at Burmah, Oct. 24, 1826. *The second* married Rev. Samuel Newell, who was ordained as a missionary at the same time with Rev. Mr. Judson, and went to Ceylon. She died 30 Nov., 1812.

Honorable mention might be made of other teachers and other graduates, who have done good service in the work which they have respectively undertaken.

The present building, in the midst of ample grounds beautifully laid out, is in striking contrast with the humble wooden edifice, first erected for this now flourishing institution. It measures 216 feet front line, 127 feet from front to rear; four stories above the basement; built of brick with underpinnings and facings of granite. The entire building is heated by steam, lighted by gas, and has all the modern appointments. On Thursday, June 16, 1870, a very pleasant meeting was held in Bradford, the afternoon session being in the hall of this building, then recently erected and opened for the reception of pupils.

HANNAH DUSTON MONUMENT IN HAVERHILL.

During the day, several of the party visited the Haverhill Public Library, and the monument erected in

Haverhill to the memory of Hannah Duston, who in 1697 was seized and carried away by the Indians, and who then performed the wonderful exploit of putting her captors to death, for which act the General Court made substantial acknowledgment of her bravery.

This beautiful monument was erected upon the spot set apart as a public park, by the people in the early history of the town, and was unveiled with suitable ceremonies on Tuesday, Nov. 25, 1879, and presented to the city by Hon. E. J. M. Hale.

The pedestal is of granite and the statue is of bronze, 6 feet high, and the entire height is 15 feet. The bronze reliefs are each 2 feet 3 inches by 1 foot 6 inches, and represent: *First*, her capture; *second*, escape of her children; *third*, slaying of her captors and her escape; and *fourth*, her return. The ideal statue was designed by Mr. C. Weeks of Haverhill, and the casting was made at Chicopee, Mass.; the base was cut by Mr. Weeks, who put the whole structure in position.

Haverhill for seventy years was a frontier town, and its early history tells of many cases of savage cruelty perpetrated by the Indians upon its first settlers. The name of Hannah Duston will ever stand prominent in the annals of the town.

HAVERHILL PUBLIC LIBRARY.

Hon. E. J. M. Hale (the gentleman who gave to the city the Hannah Duston monument, previously mentioned), desirous of having a Public Library in his native city, submitted January 29, 1873, a proposition to the city government of Haverhill.

That His Honor, the Mayor, appoint six persons as Trustees for life, and the vacancies to be filled by the remaining Trustees, to receive all funds and administer

the same for the purposes of the proposed library. That within six months to give a certain specified lot of land to the Trustees, and \$30,000 on condition that a further sum of \$30,000 be raised and paid to the said Trustees for the uses and purposes aforesaid, and that the city government in accepting these funds shall assume and bear the current expenses of library, grounds, and appurtenances, after the building shall have been completed and furnished. The city chose six Trustees, Aug. 1, 1873, and accepted the proposals Nov. 17, 1873. The building was accepted and occupied in May, 1875, dedicated Nov. 11, 1875, and opened for public use the following week.

The building is 72 feet front on Summer street and extends back 55 feet. Height of different stories as follows: Basement, 12 feet; *first* story, 16 feet; *second*, 20 feet. Cost of building and furnishing \$49,543.32; books purchased \$16,528; making the total cost, including binding, moving, etc., \$67,711.78; to this is to be added the valuation of the land \$12,000, making the value of the whole property \$79,711.78.

The whole number of volumes in the library January 1, 1880, was 29,235; additions, during the year 1879, 2,411. *Trustees*, E. J. M. Hale, James H. Carlton, James E. Gale, R. Stuart Chase, John L. Hobson, John Crowell. *Librarian*, Edward Capen.

AFTERNOON SESSION.

The afternoon session was held on the floor of the large barn extemporized for the occasion into a lecture room; as the large doors swung open, row after row of settees appeared in the foreground, and beyond, in the rear of the speaker's table, framed in the open doorway a beautiful piece of landscape. The fragrant hay mow was

speedily transformed into a balcony where young and old gathered to listen. The meeting was called to order at 2.30 P. M. The President in the chair, records of the preceding meeting were read by the Secretary. The PRESIDENT congratulated the Institute, that, under such favorable auspices, another field day is held in this good old town and with so large an attendance. He then briefly alluded to the previous meetings held in this and the adjoining town of Groveland, which was known as the East Parish of Bradford, when the first meeting was held in that place. He spoke of the early explorations of the Merrimac river, particularly the one under the direction of Simon Willard and Edward Johnson, commissioners, in 1652, John Sherman and Jonathan Ince the surveyors, to ascertain the northern boundary of the colony of the Massachusetts Bay, as stated in the charter, three miles north of the northernmost point of the Merrimac river. This was a mooted question for many years, and it was not finally adjusted until the appointment of a commissioner in 1737, who determined that the northern boundary of the Massachusetts line should be a line three miles from the mouth of the river at Newburyport, thence parallel with the river as far as the Pawtucket Falls, thence west to the New York line. In 1740, His Majesty, by the concurrence of the council, adjudged and ordered this line as the northern boundary. He then called upon Dr. George Cogswell, the host, who had generously and handsomely provided so many good and pleasant things for this meeting.

DR. COGSWELL spoke of the pleasure he experienced in welcoming the members of the two societies to his farm, and said that he was thoroughly in accord with the objects and aims of such meetings as this. He also

referred to the former men of Essex county whose influence was still felt in this community, and to the pride he felt in the scientific and educational interests of the county. He closed by introducing

REV. MR. KINGSBURY of Bradford, who continued in the same general strain, eulogizing the work and objects of the Institute and welcoming the society to Bradford.

PROF. E. S. MORSE, of Salem, followed, selecting as his theme, the *Pelopæus* (the mud wasp), now building its earthen cells and plastering them on old rafters and stone walls. He described its habits, exhibited specimens of its cells and illustrated the same with blackboard drawings; he also alluded to the barn swallows (*Hirundo horreorum*), having built their nests on the beams of the barn, and many specimens were noticed flying around. Later in the meeting, he gave some of his impressions of the Japanese as a people.

Other remarks were made by Mr. J. D. Tewksbury of Bradford, Prof. Hall of the University of Minnesota, Mr. Fish of the Salem Summer School, Mr. John W. Perkins of the Salem High School, and Mr. Emery of Lawrence.

MR. JOHN ROBINSON, of Salem, offered a vote of thanks to Dr. Cogswell and his family for the numerous courtesies and hospitality extended to the members and their friends. The meeting adjourned.

Barges and private carriages conveyed the party to the station, and thus ended a day of instruction and pleasure; and the participants will long remember the very delightful day at Riverside Farm.

FIELD MEETING AT LOWELL ISLAND, THURSDAY,
AUGUST 12, 1880.

THE third field meeting of the season was held this day at Lowell Island, near the entrance to Marblehead harbor. The steamboat, "White Fawn," left Phillips wharf at 9 and at 11 A. M., to convey the members and their friends to the island.

As usual, the party separated upon arrival, each to choose his own method of enjoyment. Some made for the bold, rocky points; some tried "luck" at fishing; and those interested in the pursuit of natural history found in the rocks, or on the beaches, or with a dredge and line from a boat, many specimens to occupy their attention.

CATT^A, afterwards Catt or Cat, and now Lowell Island, lies about four miles in a southeasterly direction from the City Hall in Salem, to which municipality it belongs, although somewhat nearer in position to Marblehead. From Gerry Island, at the mouth of Marblehead harbor, it lies due east and is about one mile distant. It is thought to have been heavily wooded before the settlement. "As we passed along," says Higginson, of the harbor, June 29, 1629, "it was wonderful to behold so many islands replenished with thicke woods and high trees." In 1738-9, "woods" are mentioned on it, and the tradition is, that it was finally denuded at the Revolution to afford British cruisers a more unbroken view into the harbor. During the operation of the Boston Port Bill and the British occupation of Boston, coasters were searched at Marblehead, and sent on with an officer on board, to Boston. Feb. 9, 1775, His Majesty's ship *Lively*, 20 guns, arrived at Marblehead harbor and anchored off the fort. May 31, she sailed for Boston, and her place was taken by the sloop-of-war

Merlin. January 7, 1776, a contemporary private journal says, "Trees on Cat Island cut down last night—supposed by the Merlin."

Its shores are for the most part steep and rocky; its average elevation of surface being perhaps twenty or twenty-five feet. It is at present without a tree or shrub, and commands an uninterrupted view towards the ocean, which is unsurpassed, as well as on the land side, the green slopes of the North Shore, Salem Neck, and Naugus Head.

The first mention we find of the island is contained in the Colonial Records for 1655.¹ It was then granted to Governor Endicott on his own request, May 23, and is there described as "*the iland called Catta Iland, being about a two acres, lying neere to Marble Head.*" In point of fact, it has an area of about sixteen acres of upland. Felt, following Dr. Bentley, who seems to have been in error, states the area at "about nine acres." Dr. Bentley wrote in his Description of Salem in 1800, "the extent of the soil is 2,167 links, about N. W. and S. E.; but the rocks being included, the island is above 28 chains. At the northwest end is a high beach which forms a point directly opposite Marblehead. The shore is irregular and rocky. There are springs on the S. E. end which terminates in a high, rocky head."

Gov. John Endicott,² in a will which took effect upon his death in 1665, left the island to his wife for life, and after, to his "two sons John and Zerobabel, or the longest liver of them." John died first without issue, and Zerobabel on his decease, 1684, gave the island to his five daughters.

¹ See Colonial Records of Massachusetts, Vol. III, p. 389. ² Gov. John Endicott died March 25, 1665. See "The Endicott Family," by C. M. Endicott, N. E. Hist. Gen. Reg., Vol. I, p. 335.

From the Endicott family it passed through Samuel, a grandson of Zerobabel, by deed March 4, 1687-8,³ to Richard Reed of Marblehead, and in this family, always conspicuous in the affairs of that town, the title remained for many years. On March 25, 1732, it came into the hands of Samuel Reed,⁴ by virtue of an indenture of partition executed by the children of the late Samuel Reed, his father, and by Ebenezer Lowell, who married a daughter, and from him, after being mortgaged Feb. 20, 1738-9,⁵ to "the Honorable James Bowdoin of Boston, Esquire" (afterwards the successor of John Hancock as governor of the Commonwealth), as "Catt Island together with the House and Woods thereon," the property passed in equal parts, Feb. 12, 1746-7,⁶ to "Joseph Willson, Gentleman, and John Oliver, Victualler," both of Malden, in the county of Middlesex. In this and subsequent conveyances, mention is made of the house but not of the woods, and since several of these conveyances are made to inn-holders of Malden, Charlestown and Marblehead, it is a fair presumption that the very considerable value attaching at this time to Catt Island was due to its being occupied as a place of public entertainment. September 2, 1773, the property passed in equal shares to Elbridge Gerry (afterwards Governor and Vice President), Col. Azor Orne, Captain (afterwards Gen'l) John Glover, and Jonathan Glover, Esq.,⁷ all of

³ Essex Reg. Deeds, vol. XII, fol. 163. ⁴ Essex Reg. Deeds, vol. CXV, fol. 103, also vol. LXI, fol. 156-8. ⁵ Essex Reg. Deeds, vol. LXXVIII, fol. 121. ⁶ Essex Reg. Deeds, vol. XCIII, fol. 16, and vol. XCVIII, fol. 30.

⁷ Honored names in Marblehead. Hon. Col. Azor Orne, son of Joshua and Sarah (Gale) Orne, b. in Marblehead, July 22, 1731, d. at Boston, June 6, 1796. He was a descendant from Deacon John Orne of the 1st church in Salem, who died at an advanced age in 1681.

Elbridge Gerry, son of Thomas Gerry, born in Marblehead, July 14, 1744, died in Washington, Nov. 13, 1814, in the office of Vice President of U. S. A.

Marblehead, projectors of the Essex Hospital for inoculation with the small-pox. After the failure of this enterprise, the island passed by various conveyances between 1795 and 1816, to members of the Fettyplace family of Marblehead, and from them, through William Fettyplace of Salem and East Boston, who became the owner of the whole estate, to John Roundy of Marblehead,⁸ Nov. 2, 1846, who sold, Feb. 11, 1848, to Nathaniel R. Blaney of Marblehead,⁹ the island "with all the buildings thereon," and he in turn to David Blaney of Marblehead,¹⁰ January 30, 1849, who conveyed the property, June 11, 1851, to Stephen C. Phillips of Salem.¹¹ January 16, 1852, the title passed to the Salem Steamboat Company,¹² a corporation created by act of May 23, 1851, and authorized "to purchase, build, charter, or otherwise hold and employ, a steamboat to be employed in and about the harbor of Salem." The Essex Railroad was incorporated March 7, 1846, and opened to Phillips' (formerly Crowninshield's) wharf, July 2, 1849. A commodious hotel was erected on the island, now first called Lowell Island, which was opened to the public, June 21, 1852, and the passenger steamer "Argo," plied between the island and Phillips' wharf. July 10, 1857, the Steamboat Company sold to Gorham A. Pollard of Lowell,¹³ who made an effort to have the island known as Pollard's Island; and, from him, through several conveyances, the property passed to the present proprietor, Samuel B. Rindge¹⁴ of Cambridge.

The Brothers Jonathan & John Glover, sons of Jonathan & Tabitha (Bacon) Glover, of Salem, removed in early life to Marblehead, & for many years held various offices of honor & trust. Jonathan was born June 13, 1731, John, Nov. 5, 1732; a Brigadier General in the army of the Revolution; died at Marblehead, 30 Jan'y, 1797. Essex Reg. Deeds, vol. CXXXII, fol. 178. ⁸ Essex Reg. Deeds, vol. CCCLXXIII, fol. 291. ⁹ Essex Reg. Deeds, vol. CCCXCIII, fol. 214. ¹⁰ Essex Reg. Deeds, vol. CCCXCII, fol. 245. ¹¹ Essex Reg. Deeds, vol. CCCXLVI, fol. 155. ¹² Essex Reg. Deeds, vol. CCCCLV, fol. 206. ¹³ Essex Reg. Deeds, vol. DLV, fol. 146. ¹⁴ Essex Reg. Deeds, vol. DCCCCXI, fol. 131.

It would be very satisfactory, if the uncertainty hanging about the name of this island, in common with others near it, could be removed. When it was first called Cat Island none of the authorities tell us; but they assume to tell us why it was called Cat Island. The accepted explanation seems to be that "Cat" is a corruption or contraction, and that the island was in some way connected with Robert Cotta, from whom it derived its singular appellation. There is no evidence that Cotta ever owned or occupied the island, nor does he seem to have been a person of special repute or standing, such as to make it probable that the island would have belonged to him or been named for him. He was made a "freeman" May 6, 1635, and the Colonial Records spell his name "Cotty." This is the first we know of him. Ralph Fogg's Waste Book of the Quarter Courts, 1636-7, spells his name "Cotta." The terminal "a" in those days was doubtless sounded like the "a" in "fate." In John Holgrave's record of a Town Meeting, 14th, 6th mo., 1637, his name is spelled "Cottie." In Roger Conant's list of apportionments of marsh and meadow lands, made at a general Town Meeting in 1640, his name appears as "Cotty." And so Gov. Endicott spells it, 11th, 8th mo., 1640, but in his record of a meeting of the "seven men," 12th mo., 1644, Gov. Endicott calls him "Cotta." In 1645, Robert "Cotta" gets £5 allowed him for a cow out of funds provided by Mr. Andrews of London for that purpose. And the records from 1647 to 1651 show his name, in several instances, spelled "Cotta."

The first mention of the island, so far as we know, occurs in the Massachusetts Colonial Records for 1655. It was then granted to Gov. Endicott, and had never been previously granted to any other person. Gov. Endicott died in 1665, leaving it by will, after the

decease of his wife, to his two sons, or the longest liver of them; and his son Zerobabel, the survivor, died in 1684, leaving it to his own five daughters. From the middle of the seventeenth century to its close, this island remained in the Endicott family.

If we knew so much and no more, we might readily find a theory to account for the name, without having recourse to Robert Cotta. If we were obliged to derive the name "Cat" from the sound represented by "Cottie," or "Cotty," it would be more reasonable to seek its origin in some possible diminutive or term of endearment which might have been in use in the family named Endicott, who owned the estate for many years, rather than to seek it in the name of Robert Cotta, who was not, so far as we know, in any manner nor at any time connected with Cat Island.

But why indeed, if we knew nothing more, derive the name of the island, any more than the name of Cat Cove, from any other source than the word "Cat?" Cat Island was granted to John Endicott while he was governor, on his own request. It must, therefore, have had a value. For what purpose? Hardly for agriculture; possibly for its timber; more probably as a fishing station, or a station for transport and freighting vessels on their way to Boston. In this case, we might well have supposed that it took its name, and perhaps Cat Cove as well, from the craft called Cat, or Cat Boat, a vessel of Norwegian origin, so numerous at one time in the Bay of Plymouth, England, as to have given to part of that harbor the name of Catwater.

Unfortunately, however, for all these hypotheses, a close examination of the actual spelling of the early records shows that they are all groundless, and remands the conscientious antiquary to his original uncertainty.

The grant from the Colony to John Endicott, in 1655, is to be seen at the State House. It describes the estate as CATTa ISLAND. The will of John Endicott, dated on the "2nd day of the 3d mo. called May" 1659, may be seen at the Suffolk Registry of Probate; so may an inventory of his estate made after his death in 1665; both these describe the property as CATTa ISLAND. At the Essex Registry of Probate, a contemporary copy of the will of John Endicott, made May 23, 1666, as well as the original of the will of Zerobabel Endicott, the survivor of his two sons, dated Nov. 23, 1683, and an official copy of the same made in September, 1684, are on file. All these describe the island by the name of CATTa. Cat Cove had been called "Catt Cove" since 1638, when Roger Conant had a house there. And Robert Cotta, Cotty, or Cottie, is never known to have indulged in that delightful orthographic license which our ancestors enjoyed, but which we have surrendered, to the extent of writing his name with the letters CATTa.

In a deed from an heir of the governor to Richard Reed of Marblehead, dated Boston, March 10, 1687-8, the island is conveyed and is described as being "commonly called and known by ye name of Catt Island." A second inventory of Zerobabel's estate, dated March 4, 1696-7, also describes it as "Catt Island att the mouth of Marblehead Harbor." Thus it seems clear that, whatever was the origin of this singular designation, it attached itself to the island before 1687; that it was an abbreviation of CATTa, and not in any way associated with Robert Cotta, nor with the daughters of Zerobabel Endicott; whether with the Cat Boat, which may have come down to us from the Norsemen,—whether with *Felis domestica*, the "harmless, necessary cat," we cannot determine.

CATTA is a Latin synonyme for *felis*, and Gov. Endicott, who was enough of a linguist to speak French, was not averse to interjecting a foreign phrase now and then in his manuscript records, a practice quite in accord with the fashion of his times. Moreover, the word CATTA has been used, the lexicographers tell us, as the name of a sea-craft, at least since A. D., 1071, and probably much longer. How much the *ἄζατος* of Herodotus and Pindar, —the *ἄζατιον* of Xenophon and Thucydides, in which Plutarch says Cæsar made his escape from Alexandria and the wiles of Cleopatra—had to do with the origin of this word for “boat,” we must leave to conjecture.

A century later, this spot inspired an interest somewhat graver than questions of philology excite. 1773-4 was a year of tumult. It was the year of the Boston Tea Party and the Boston Port Bill. The people of this province had lost confidence in the good faith of the only government they had, and were not yet able to see their way to the establishment of another. Lawless violence stalked abroad, and society seemed, for the time, to be thrown back upon its elemental forces. Week by week the feeling about the importation of tea grew intenser and more threatening. The daily journals teemed with protest and denunciation. Hutchinson's secret letters had been sent home by Franklin and read in the assembly. Accounts of burnings in effigy, and coats of tar and feathers, were as frequent as are runaways and coasting accidents to-day. In the midst of all this, as if to make confusion worse confounded, the scourge of small-pox, absent for many years, reappeared in Massachusetts Bay. The terror which the loathsome disease inspired, and the relief experienced from the new mode of treatment by inoculation, are well indicated in the narrative of an incident in the history of Cat Island, which we transcribe

from the contemporary journals of the period. Now that vaccination has so nearly eliminated this from our list of terrors, it is not easy to reproduce the scene of panic it created. Men shunned one another; tradesmen could with difficulty be persuaded to bring the necessaries of life to market, and sacred family ties seemed unable at times to bear a strain too great for human nature. Daily bulletins from Boards of Selectmen announced the lowest number of cases which could from day to day be charged against their respective precincts; and to allay those hideous suspicions which panic engenders in feverish times, rewards were offered for evidence to convict unknown persons of maliciously spreading the contagion about the streets.

The year 1773-4 was probably the most crowded single year in our local history. That year witnessed the last session of the Provincial Assembly; the first session of the Provincial Congress; one following close upon the other in the Town House at Salem;¹⁵ and in the midst of this momentous session the first great fire in Salem occurred, consuming the Tabernacle Meeting House,¹⁶ the Custom House, fourteen shops and eight dwellings, besides injuring and greatly imperiling the Town House itself. It was the same year in which Thomas Hutchinson quit the executive chair of the province for England, and Thomas Gage, the first military governor, succeeded him and established military headquarters, with two companies of the 64th regiment of the line, at the Collins Farm, in Danvers, whitening the Neck soon after with the tents of the 69th regiment from Halifax. Timothy Pickering was twenty-nine years of age, that

¹⁵ Which stood on the corner of Essex and Washington streets, near the southern parapet of the tunnel.

¹⁶ Which stood on Essex street, opposite Barton Square.

year, and Elbridge Gerry, thirty. In that year Marblehead was second in importance only to Boston among the leading towns of Massachusetts,—probably of New England,—while Salem, fourth on the list by the census of 1765, the earliest census of which we have authentic data, was behind her neighbor in gross population, as well as in the number of houses and of families, in taxable property and perhaps in tonnage.¹⁷ A drive to Marblehead was then an indispensable requisite of Salem's hospitality to strangers.

In that year, systematic general inoculation first came into favor here. Inoculation had been in use in America since 1720, and in common use since 1760.

The nature of the disease, from which inoculation was proposed as an escape, is not such as to invite discussion. Vaccination, introduced at the end of the last century,¹⁸ enables us to escape the sickening contemplation of it as a matter of general concern; but our ancestors were not

¹⁷Nov. 27, 1714, the Churchmen of St. Michael's, at Marblehead, petitioned the Bishop of London for an English Clergyman, and described their town as "next Boston, the greatest place of Trade and Commerce within this Province." By the census of 1765, Salem and Marblehead compared as follows:—

	Population.	Houses.	Families.
Salem	4427	509	923
Marblehead	4954	519	935

Dartmouth, now New Bedford, was also then ahead of Salem. In the sermon on the ordination of Rev'd Ebenezer Hubbard over the First Church at Marblehead preached by Rev'd Elias Stone, Jan'y 1. 1783, the town is described as "before the American Revolution, swarming with inhabitants, a pattern of industry, flourishing in trade, abounding with wealth. From its numbers and opulence, as from a fountain, streams of wealth flowed out, which greatly enriched the vicinity and penetrated far into the country. About 1770, Marblehead was supposed next to Boston in population, bearing a proportion in the Province Tax next to Boston, and thought at that time to have imported more hard money than any other town in the province."

¹⁸Dr. Jenner vaccinated his first patient May 14, 1796, and on July 1st following and several subsequent dates, inoculated him without effect, thus demonstrating the success of his system. The same year, the system was introduced into America by Dr. James Jackson and Dr. Waterhouse. Dr. Thomas Pickman performed the first vaccination in Salem, Oct. 5, 1800.

so fortunate. It was to them one of those horrors too ghastly to confront. Deadly to a degree almost incomprehensible to us, its lethal force was perhaps its least offensive characteristic; for when not fatal, it left behind it blindness, debility, and the seeds of disorders only less desolating than itself. Just before the settlement of Cape Ann, it had completely depopulated this region of its native stock, and if we charge that familiar fact to the exposures and irregularities of savage life, what shall we say to the correlative fact, that of the patients under the best known scientific treatment in London Hospitals, thirty per cent. of those stricken with it died? In spite of inoculation, which Lady Mary Wortley Montagu had introduced from Constantinople in 1718-20, but which made slow progress, one-tenth of all the deaths in England, during the last half of the last century, were deaths from small-pox.¹⁹ The statistics for New England cannot be very different. Private diaries of persons in the most favored positions in life are full of the records of friends sacrificed to this pest. Judge Lynde of Salem, though chief justice of the province, more than once removed his family from his house, and once sent them into the country and from place to place, to avoid danger during a period of contagion; and was once the recipient of an anonymous letter charged with the deadly infection, from the effect of which he happily escaped; and this too in the Revolutionary period, when a celebrated German surgeon, attached to the Hessian troops, Dr. Johann David Schöpfung, writes home that in America inoculation is an "almost universal practice."

¹⁹The disease was no respecter of persons, but like death in all its forms, *æquo pulsat pede pauperum tabernas Regumque turres*. May 10, 1774, surrounded by all the splendors of Versailles, Louis XV. at the age of sixty-four, King of France since his fifth year, died a miserable death from a second attack of small-pox, a disease which he had had in youth and which he gave to the two princesses, his daughters, who attended his death bed.

In the light of modern science, inoculation seems to be an inadequate, if not a dangerous resort, and is now prohibited by law. It did not do away with the danger of infection as vaccination does, nor in any way decrease it. To some minds, the bringing together, at one point in a hospital, of so great a number of persons suffering from such a disorder, seemed likely to form a centre of propagation which might imperil the neighborhood. Moreover, the advocates of inoculation did not unite their forces in a vigorous struggle with its opponents, but were very much divided among themselves in our neighborhood, at the time in question, between two systems of practice, differing mainly in the application of mercurials. Before inoculation, pest-houses had been provided in out-of-the-way places, where the disease could be isolated and treated by nurses who had passed successfully through it. Beyond this, and the killing of all stray dogs and roping off of streets and sometimes of whole towns which were infected, little could be done.²⁰

Lady Montagu, during her stay at Constantinople, found inoculation in common use there, and much prized by women as a protector of their beauty. She herself had lost her eyebrows from the ravages of small-pox, and counted her brother among its victims. With characteristic sagacity and nerve she applied the new treatment to her own children, and finally succeeded on her return to England, in recommending it to general attention. It was first practised in America, at Boston, in 1720, and though Increase Mather, with other leaders of the clergy,

²⁰ Vessels were constantly bringing the disease from Barbadoes and in these cases their crews and cargoes, especially of cotton-wool, were often landed on Misery or Baker's Island. Harvard College was more than once dismissed on account of its prevalence, and many times the General Court was adjourned from place to place to escape it. Highways from town to town were securely fenced and guarded, and ferry boats discontinued.

brought all their priestly influence to bear in its favor, its adherents made slow progress. Nov. 20, 1721, there was but one physician, Dr. Zabdiel Boylston,²¹ known to countenance and encourage the practice in Boston, though Mather argued the lawfulness of it on scriptural grounds, gravely urging: "Furthermore, I have made some enquiry, whether there be many persons of a prophane life and conversation that do approve and defend inoculation, and I have been answered that they know but of very few such. This is to me a weighty consideration. But on the other hand, though there are some worthy persons that are not clear about it, nevertheless it cannot be denied, but that the known children of the wicked one are generally fierce enemies to inoculation."²²

It was claimed in behalf of inoculation, that it relieved those who submitted to it, for the rest of their lives, of the habitual and universal dread of taking the disease in the natural way. The unspeakable value of such exemption is obvious. Moreover, it was also demonstrated, that the disease thus artificially produced in a system previously skilfully prepared to receive it and developed under scientific conditions, in every way the most favorable, was not more dangerous nor afflictive than many others. Instead of amounting to one in three, four, or five of those affected, the number who died under the new treatment was found not to exceed one in seven hundred or a thousand, and was often stated much more favorably, and thoughtful people congratulated themselves that at last "that disease, which, taken by chance, hath proved the Bane of Tens of Thousands, now comes cloathed in gentleness,—all its Terribleness cast aside."

²¹ Dr. Boylston's life was threatened and adverse legislation attempted.

²² Collections Mass. Hist. Soc., 1st ser., Vol. IX, pp. 275-80.

Washington was inoculated at New York, June 27, 1776. In that year, small-pox raged in Boston which was occupied by the British. A general inoculation was ordered there, July 3. These general inoculations required very extensive hospital accommodations. Cat Island had been early recognized as a desirable site for an establishment of this nature, and leading citizens of Marblehead, Salem, Beverly, and Lynn, had asked the needful permission of the Provincial Assembly.

The island had a sufficient area, with pure air, fine views, and a natural spring of water. It was of easy access, yet at a safe distance, and was at that time not wholly cleared of its growth of timber. It was purchased in equal shares, by four of the most prominent citizens of Marblehead: Col. Azor Orne, Elbridge Gerry, Esq., Capt. John Glover, and Jonathan Glover, Esq., and their enterprise and means secured, on a generous scale, the erection during the summer of 1773 of the needful buildings, at the high, rocky headland, near the spring of water. Even before their completion, popular distrust had begun to show itself and had so far prevailed over good sense, that on Sept. 19, a town meeting had been called at the instance of indignant opponents of the scheme, and the license granted by the town had been revoked. The projectors of Essex Hospital, however, were not the men to be daunted by popular clamor. Among them were the town's representatives in the general assembly and on the committees of correspondence. In a larger sense, they were representatives of the industry, wealth, and intelligence of the town. They had in hand a private enterprise of great public importance, and in order to demonstrate to their townsmen that a desire for personal profit was not among their motives, they made a public offer to the town of the whole property at cost.

This being declined, they pushed on the work with characteristic energy, and October 19, opened the Essex Hospital to the public with the sanction of the Provincial Assembly and under a rigid system of rules duly approved by the "gentlemen selectmen of Salem and Marblehead."

One of the selectmen of Salem was Timothy Pickering, jr., at that time captain of the 4th Salem Company in the 1st Essex Regiment of Infantry, of which he soon after became colonel. He threw himself with the same boldness and enthusiasm into the controversies growing out of the small-pox excitement of that year, as he did into every other on which he entered. A prolific and telling writer on military, patriotic, theological and political topics, he was at the same time engaged in a furious newspaper warfare with Rev. Dr. Whitaker in the Essex Gazette, as to which was the better of the two prevailing methods of inoculation, and had that summer made a saddle-journey alone to Albany, in the Province of New York, to secure the services of a celebrated surgeon attached to the Eighth (King's) Regiment of Foot, who practised the much-vaunted Suttonian method. This step he took as overseer of a hospital for inoculation, then building near Castle Hill in Salem, in "the great pasture common," which seems to have been the second institution of the kind opened in this province, the Essex Hospital alone being completed before it. Of Mr. Gerry, it is proper to say that he had in early life given much attention to medicine, a profession to which he was inclined and for which his father destined him; but the troubles of his country summoned him to more conspicuous service.

It will be seen that the sanction of the selectmen of Marblehead for the opening of the Essex Hospital was granted after an expression of public disapproval and dis-

trust by the citizens of the town, and this fact probably explains the occurrences which are to be narrated.

Besides generous kitchens and quarters for a steward, physicians, nurses and attendants, the hospital buildings contained an assembly room and ten large lodgings, each well-furnished for eight or ten patients. Eight persons might, before entering, club together and secure a room to themselves; otherwise, patrons were admitted and assigned rooms in the order in which their applications were recorded. Major Richard Reed kept, at his place of business in Marblehead, the class books, so called, in which the names of applicants were entered, and Jonathan Glover signed for the proprietors. An island guard and a crew of picked boatmen were enlisted and these were placed under oath. The regulations, which were published, provided that the guard "shall suffer no person to land on the island and no person to embark therefrom" without written passport. No letters can leave the island on any account. The average admittance fee seems to have been twelve dollars, payable in advance,—the average term of sojourn, four weeks, and a bond was given on entering, to insure the strict observance of regulations. A "coasting sloop" was provided for transportation, and these, with the addition of the usual out-buildings for the storage of uninfected clothing, for fumigation and the like, the whole intrenched behind a picket-fence with gates and sentry-boxes, completed the elaborate arrangements at this Castle of Uncleanness.

At the top of the main building, three stories in height, was constructed a system of signals by which the exact state of affairs on the island could be telegraphed ashore; and hundreds of anxious observers, all along the bay, may well be supposed to have levelled their glasses at sunrise for the daily bulletin, with a foreboding scrutiny

not unlike that with which the poet Key, at a later period, spied out the starry flag on Fort McHenry.

The establishment thus equipped, the first of the kind in the country, was placed in charge of two eminent specialists in their department of physic, Dr. Hall Jackson of Portsmouth, N. H., who had practised in London, and an assistant, Dr. Ananias Randall, from Long Island. The American, and not the Suttonian method, was practised, and to this Col. Pickering soon became a convert. Besides the professional supervision thus secured, the enterprise enjoyed the countenance and endorsement of eminent local practitioners, who made haste to enter themselves as patients. Dr. Ebenezer Putnam, sen'r, of Salem, "set off for Cat Island" for inoculation, October 25, and on Nov. 12, he with Dr. Elisha Whitney of Beverly, and Drs. Nathaniel Bond and Elijah Dix, united in publishing a card as patients of the Essex Hospital. Dec'r 3, Dr. Humphrey Devereaux, a leading physician of Marblehead, died there, at the age of 43, "universally regretted." Col. Peter Frye, Mr. Eaton, and other leading citizens of Salem, were there as patients.

The first class entered Essex Hospital, Oct. 19, 1773. It consisted of 103 persons of both sexes, filling the institution to its utmost capacity, went down "in high spirits," and, as the buildings and outfit were all fresh and uninfected, was not unnaturally attended to the island by a very large concourse of the best quality of the neighborhood. After leave-taking in the assembly room, the island was cleared of the throng and inoculation proceeded. The high spirits with which the party entered upon this strange experience suffered no abatement. Death did not invade their ranks, and so mild a type of the disorder was induced, notwithstanding the autumnal weather which was accounted as a little unfriendly for the first

venture, that we find them "daily displaying their signal of Health from the middle of the Island:"—"all in high spirits" Oct. 25,— "indeed confined to a strict regimen, but they may every day be seen walking the Island, shooting wild fowl, playing at quoits,—some wholly without marks,—in all stages of the disease their windows daily open,—exposing themselves to the open air in all weathers,"—down to Oct. 29; and on Nov. 5, duly commemorating the "happy Deliverance of the English Nation from the Gun Powder Plot" with tar barrels brought from Marblehead, with which they "displayed a large fire from the Middle of the Island, and the Hospital Illuminated, making a most beautiful appearance." Rockets were ordered from Boston, and were "played off by a number of gentlemen who spent the Evening at the Assembly room," and all passed "very jovially for them and for their friends and acquaintances under Inoculation." Dec. 4, in firing a salute, it does not appear for what occasion, Capt. Lowell of Newburyport, a patient only twelve days under inoculation, blew off both his arms and shattered his upper jaw and nose, yet he was discharged in thirty-seven days, recovered so far as was possible from these and other frightful injuries, with the sight of one eye restored,—a striking testimony to the curative skill and good management which prevailed there. Clergymen were not lacking among the patients to conduct the usual services of Sunday.

Thus successfully did this important undertaking seem to be initiated, and the first, second and third classes, each of a hundred or more members, had already passed the ordeal, the Salem Hospital at Castle Hill having in the meantime been erected and opened. Applications crowded the class books too fast for admission, and the patients, returning from treatment, left the island with

keen appetites, a grateful sense of exemption from future peril, and often in better general health than they enjoyed before entering the hospital.

Unhappily, in bringing ashore a portion of the third class, some irregularity occurred, from an attempt to land them at a point other than that designated by the authorities. The magazine of popular indignation was fired in an instant. General distrust and alarm took possession of the town. Angry collisions occurred. The Hospital Boat was burned. Jan'y 19, four Marblehead men were caught attempting, as it was charged, to introduce into town clothing which they had stolen and brought ashore from the island. "A large body of Mobility" met at the Town House next morning, says the Essex Gazette, and having, "by a great majority, determined that the Mode of Punishment should be Tarring and Feathering," proceeded to execute their sentence.

Of the excesses which immediately preceded and followed this outbreak, we have, besides the contemporary chronicle of the Essex Gazette, which might be thought to be colored by the excitement of the hour, a carefully digested statement, dated Marblehead, February 8, 1774, signed by fifty of the most substantial citizens of the town, and placed on file, Feb. 12, with the Provincial Assembly then sitting at Boston. It bears the names, among others, of Jeremiah Lee, who seems to have drawn it, of Joseph and of William Lee, of both the Glovers, of Richard and Samuel Reed, of Robert Hooper, *tertius*, of Joseph Hooper, of Thos., Thos., jr., and Elbridge Gerry, of Richard Phillips, of Azor and Joshua Orne, of John Gallison and John Sparhawk, of Edward Fettyplace and Burrill Devereaux. It is addressed to "His Excellency, Thomas Hutchinson, Esq., the Honorable, His Majesty's Council, and the Honorable House of

Representatives in General Court assembled." It begins as follows: "May it please your Excellency and Honors. Your Petitioners, being Inhabitants of Marblehead, and conceiving that their Lives, Liberties and Properties have not the least Protection from the Laws and Government of the Land, beg leave to submit their unhappy Circumstances to your wise consideration, and Humbly Implore your Patience to a True Narration of Facts."

From sources of information such as these, unimpeached and thoroughly worthy of credit, it appears that the reign of terror began as early as the night of Jan'y 11, and continued with little abatement until the end of February. That on Jan'y 12, the mob "blackened themselves" after being "plyed with strong liquors for several hours," and beset the house of Jonathan Glover, who planted in the hall behind his open front door a loaded cannon, and declared his readiness to receive their visit. That they broke his windows, and demanded the Deputy Sheriff, Brown, whom they supposed to be on duty in town, to take the offenders who fired the Hospital Sloop the night before. That they declared their intention, so says the petition to General Court, "to have put to a most excruciating death the Deputy, with the High Sheriff, by Boyling them in Oyle." And that "they further embarked to Burn the Hospital, then having forty patients under inoculation, but were happily prevented." The next day, which was the third day, "matters had arrived to such a pitch as to leave it no longer safe for any one to express his dissatisfaction at these proceedings." The disorder increased until Jan'y 15th, when the Proprietors of Essex Hospital made public declaration "that it should be closed until the town should think it necessary to be opened again." This had a quieting effect; but on the 17th, persons appeared blacked, in the evening, in all

parts of the town, and the Design was again disclosed of Burning the Hospital. "Preparation was thought on to defend it," and the design was abandoned. The lives of attendants who came ashore were threatened, and the keys of the Proprietors' stores and warehouses were demanded. Thus matters stood on Jan'y 20. Meanwhile, the first four victims of the tar-kettle had been secured, and, says the Gazette for that day, "the most extraordinary exhibition of the kind ever seen in North America was drawn forth to public view." The procession formed at the Town House in the morning. First came one thousand people, mostly in uniform, among whom were four drummers. Next rode the "four objects of resentment" in a cart facing each other, each wearing a coat of tar and feathers; a fifer and one drummer being placed in the front of the carriage, from which a large white flag was displayed. In this manner they marched to Salem, and entered the town about twelve o'clock. Here, forming a junction with a numerous body of the inhabitants, they paraded the principal streets, drums beating, fife playing, and flag flying from the cart, "which, with the exquisitely droll and grotesque appearance of the four tarred and feathered Objects of Derision, exhibited a laughable and truly comie scene." They left Salem for Marblehead before one o'clock, and dispersed there on their arrival. By this treatment, the petition asserts, the lives of two of their victims were put in peril. The next evening, Jan'y 21, a body of seven or eight hundred persons assembled, tarred and feathered another "object of resentment," and carted him through town, proclaiming that "they had the Laws in their own hands," and threatening all who should exhibit fire-arms, thus "depriving such as apprehended themselves in dan-

ger of their only defence, in a Perfect state of Anarchy and Confusion."

We are not unprepared for the sequel. On Jan'y 24, "a Meeting was called at Marblehead to put a Stop to the Disorders, which for several days before had happened in the Place. As the Dispute respected the Essex Hospital, it was agreed by the Proprietors to shut it up." The account is taken from the Petition and from the Essex Gazette. At their Desire, a Committee of the Town was chosen to inspect the Operation. "Next day, the Committee went to the Hospital and attended their Business until the following Night, Wednesday, Jan'y 26, when they awaked with the Rest of the Family, being eleven in Number, surrounded with Flames. The Ruffians, who perpetrated this act, went from the Town prepared with Tar Tubs, etc., and proceeded setting Fire to all Parts of the House, without any Attempt to awake the People. So infernal were the Villains, that they struck down one Man, who in Amazement had jumped from his Bed and was running from the Flames. The Steward had a Blow from another of them with an Andiron, which missed his head and felled him to the Floor. One of the Patients, with a Child at her Breast, was driven to the Smoke House, fainting as she went, and others were turned out, cold as it was, with scarcely any Thing to cover them."²³

The persons engaged in this outrage numbered about twenty, part of them disguised as Mohawks; the loss to the proprietors was estimated at Two Thousand Pounds,

²³ The same issue of the paper states that the Frost has nearly completed a bridge from Castle Island to the mainland in Boston Harbor, that Charles River was frozen over so that there was foot-passage from Boston to Charlestown, that the Beverly Ferry was froze over so that they pass and repass on the ice, and that navigation was at a stand in Salem, the Harbor being entirely froze up.

L. M., and a military watch of forty men was at once established at Marblehead, the Confusion being such that Lives and Property were not thought safe without it.

The General Court was next appealed to, in the petition already quoted. This closed by showing how Reverend Ministers had been abused for bearing religious testimony against the outrages, being threatened with having their houses pulled about their ears; that the Salem Hospital was threatened, and the workhouses, that they should be burnt and the keepers with them; that vessels were threatened with scuttling; and that "should Government remain longer unrestored, assassinations, which have already been threatened, will, we fear, be the unhappy consequence." "Your Petitioners beg leave to shew that, amidst all these Tumults, not a magistrate has there been to command the peace."

In answer to this humble petition for "such speedy relief from these grievous circumstances as in their great wisdom may seem meet," the Provincial Assembly appointed an investigating committee of both Houses, which was instructed to repair to Marblehead and "inquire into the grounds of the uneasiness subsisting there." This Committee reported, Feb. 18, supposing the danger over.

Feb. 25, Deputy Sheriff Brown, of Salem, went in the forenoon to Marblehead and arrested two persons on board a fishing vessel, in an action for £3,000 brought by the "gentlemen who were Proprietors of the late Essex Hospital, on suspicion that the said two Persons were concerned in burning that building. The prisoners were committed to his Majesty's Gaol²⁴ about 2 o'clock P. M.

²⁴This Gaol was at the corner of Prison Lane, now St. Peter's street, and County now Federal street, and had an open yard on the easterly side of it, extending to Prison Lane. The present residence of Abner C. Goodell, Esq., is in part the same structure and contains some of the identical timbers.

Almost as soon as the Keys were turned upon them, the People began in small Companies to enter the Town from Marblehead, and continued coming over in this Manner, till near Night, rendezvousing near the Gaol. The Magistrates were busy in consulting upon Measures for preserving the Peace, and for dispersing the People who were assembling from Marblehead, from whence a still greater Number was expected after dark. About Sunset, on Application to the Colonel of the Militia, the Drums were ordered out and beat, *To Arms!* Immediately upon hearing this, the Mob to the numbers of 4 or 500, arming themselves with Clubs, Sticks of Wood, etc., and while it was yet Day Light, made a most furious attack upon the Gaol. They first burst open the Doors and broke most of the lower windows in that Part of the Building which is the Prison Keeper's Dwelling,—and then with Iron Crows, Axes, etc., they soon beat their way through four of the Prison Doors, each of which was very strong and well secured with many large Locks. Thus, having got into two Apartments of the Prison, in less than 10 Minutes from the first Onset, they carried off the above mentioned two Prisoners in Triumph to Marblehead.”

On Monday, Feb. 28, the High Sheriff of the County (Richard Saltonstall, who had advertised a reward for the apprehension of the jail-breakers) gave orders to his deputy in Salem to command the Inhabitants to meet in School Street (now Washington, north of Essex Street) at 9 o'clock the next Morning, with Arms and Ammunition according to Law, to assist the High Sheriff in the Execution of his Office.

“In Pursuance of this Order, several Hundred were commanded to appear. This Body, when assembled, * was to march to Marblehead and assist the Sheriff in

retaking the Prisoners as well as to apprehend the Principals concerned in breaking the Gaol. On the other Hand it was given out that the Marblehead People, to the Number of six or eight hundred, were arming and were determined to repel to the last Extremity, any Force that should be brought against them. In this critical Situation of Things, a Number of the principal Gentlemen of Marblehead were happily instrumental in effecting a Compromise: the Proprietors of the late Essex Hospital being influenced to relinquish all Demands that they might have either on the County or Sheriff, in Consequence of the Rescue and Escape of the above mentioned Prisoners, and to discontinue all Proceedings respecting the Burning of the Hospital. This Measure, which restored Peace, was reported abroad just before the Time at which the People were ordered to assemble, and was the Cause of great Joy and Satisfaction to the Town in general." With the subsequent beating of Clark, one of the four who were first tarred and feathered, and who was again dragged from his bed at night by twenty men and whipped at the post before the Town House in Marblehead, this disgraceful transaction seems to have closed.

Unfortunate as the occurrence was, it barely escaped more serious consequences of a political nature. Such was the sense of outrage on the part of the Proprietors of the Hospital, that they declined all further service in town affairs and threatened to leave town. This action not only vacated the places of deputies in the Assembly, but left Marblehead without a committee of safety and correspondence at that critical moment when, the Boston Port Bill being but a few days off, the second town in New England was about to be called on to render incalculable aid and comfort to the distressed capital of the Province. To avert this catastrophe Samuel Adams made it his special

care and duty, and wrote to Elbridge Gerry patriotic words, which fitly close this strange narration.²⁵

Austin says "This act of violence, following soon after the destruction of the tea in Boston Harbor, was urged by the advocates of the ministry as the natural effect of a bad example. To the friends of the people this was peculiarly mortifying. It was with extreme regret that in a place considered as patriotic as Marblehead, a disgraceful scene of riot and ruin should have been exhibited, which could not fail to be turned to their disadvantage in the great contest on which they were entering."²⁶

[MR. ADAMS TO MR. GERRY.]

BOSTON, MARCH 25, 1774.

MY DEAR SIR:

While the general court was sitting, I received a letter from you relating to the unhappy circumstances the town of Marblehead was then in; but a great variety of business, some of which was very important, prevented my giving you a convincing proof at that time, of the regard with which I am ever disposed to treat your favours. Besides, if it had been in my power to have aided you with advice, I flattered myself, from the information I afterwards had, that the storm, though it raged with so much violence, would soon spend itself, and a calm would ensue. The tumult of the people is very properly compared to the raging of the sea. When the passions of a multitude become headstrong, they generally will have their course: a direct opposition only tends to increase them; and as to reasoning, one may as well expect that the foaming billows will hearken to a lecture of morality and be quiet. The skilful pilot will carefully keep the helm, and so steer the ship while the storm continues, as to prevent, if possible, her receiving injury.

When your petition was read in the house, I was fearful that our enemies would make an ill improvement of it. I thought I could discover in the countenances of some, a kind of triumph in finding that the friends of liberty themselves were obliged to have recourse even to military aid, to protect them from the fury of an ungoverned

²⁵ See Wells's Life of Samuel Adams, Vol. II, pp. 154-5.

²⁶ See Austin's Life of Elbridge Gerry, Vol. I, pp. 33-42.

mob. They seemed to me to be disposed to confound the distinction, between a lawless attack upon property in a case where if there had been right there was remedy, and the people's rising in the necessary defence of their liberties, and deliberately, and I may add rationally, destroying property, after trying every method to preserve it, and when the men in power had rendered the destruction of that property the only means of securing the property of *all*.

It is probable that such improvement may have been made of the disorders in Marblehead, to prejudice or discredit our manly opposition to the efforts of tyranny; but I hope the friends of liberty will prevent any injury thereby to the common cause: and yet, I cannot but express some fears, that parties and animosities have arisen among the brethren; because I have just now heard from a gentleman of your town, that your committee of correspondence have resolved no more to act! I am loth to believe, nay, I cannot yet believe, that the gentlemen of Marblehead, who have borne so early and so noble a testimony to the cause of American freedom, will desert that cause, only from a difference of sentiments among themselves concerning a matter which has no relation to it. If my fears are groundless, pray be so kind as to relieve them, by writing to me as soon as you have an opportunity. I shall take it as the greatest act of friendship you can do me. Indeed, the matter will soon be put to the trial; for our committee, without the least jealousy, have written a letter to yours, by Mr. Goddard, who is the bearer of this. The contents we think of great importance, and therefore I hope they will have the serious consideration of the gentlemen of your committee.

I am, with strict truth,
Your's affectionately,
SAMUEL ADAMS.

ELBRIDGE GERRY, ESQ.

[COMMITTEE OF CORRESPONDENCE TO MR. GERRY AND OTHERS.]

BOSTON, APRIL 2, 1774.

GENTLEMEN:

Yesterday we received your letter dated the 22nd of March, wherein we have the disagreeable intelligence of your "having resigned the several offices in which you have acted for the town of Marblehead." and that you shall "accept them no more—without material alteration in the conduct of the inhabitants."

When we heard of the unhappy circumstances of that town, the contest that had arisen to so great a degree of violence on account of the hospital lately erected there, it gave us great concern and anxiety, lest it might issue to the prejudice of the common cause of American

freedom. We were apprehensive that the minds of the zealous friends of that good cause, being warmly agitated in such a controversy, would become thereby disaffected to each other, and that the advantage which we have hitherto experienced from their united efforts would cease. We are confirmed that our fears were not ill-grounded, by your relinquishing a post, which in our opinion, and we dare say, in the opinion of your fellow-townsmen you sustained with honor to yourselves and advantage to your country. But, gentlemen, suffer us to ask, whether you well considered, that although you derived your being as a committee of correspondence from that particular town which appointed you, yet in the nature of your office, while they continued you in it you stood connected in a peculiar relation with your country? If this be a just view of it, should the ill conduct of the inhabitants of Marblehead towards you, influence you to decline serving the public in this office any more than that of the inhabitants of this or any other town? And would you not therefore have continued in that office, though you had been obliged to resign every other office you held under the town, without injury to your own reputation? Besides, will the misfortune end in this resignation? Does not the step naturally lead you to withdraw yourselves totally from the public meetings of the town, however important to the common cause, by which the other firm friends to that honourable cause may feel the want of your influence and aid, at a time when, as you well express it, “a *fatal* thrust may be aimed at our rights and liberties,” and it may be necessary that all should appear, and “as one body oppose the design and defeat the rebel intention?” Should not the disorders that have prevailed and still prevail in the town of Marblehead, have been a weighty motive rather for your taking measures to strengthen your connexions with the people than otherwise; that you might in conjunction with other prudent men, have employed your influence and abilities in reducing to the exercise of reason those who had been governed by prejudice and passion, and thus have brought the contest to an equitable and amicable issue, which would certainly have been to your own satisfaction? If difficulties stared you in the face, it is a good maxim, *nil desperandum*; and are you sure that it was impracticable for you, by patience and assiduity, to have restored “order and distinction,” and rendered the public offices of the town again respectable?

It is difficult to enumerate all the instances in which our enemies, as watchful as they are inveterate, will make an ill improvement of your letter of resignation. And therefore we earnestly wish that a method may yet be contrived for the recalling of it consistent with your own sentiments. We assure ourselves that personal considerations will not be suffered to have an undue weight in your minds, when the

public liberty in which is involved the happiness of your own as well as the children of those who have ill treated you, and whom to rescue from bondage will afford you the most exalted pleasure, is in danger of suffering injury.

We wish most ardently that by the exercise of moderation and prudence the differences subsisting among the good people of Marblehead may be settled upon righteous terms. And as we are informed that the town at their late meeting did not see cause to make choice of other gentlemen in your room in consequence of your declining to serve any longer as a committee of correspondence, we beg leave still to consider and address you in that character.

We are, with unfeigned respect,

WILLIAM COOPER, Clerk.

By order, and in behalf of the Committee
of Correspondence for Boston.

*To gentlemen of the Committee of Correspondence
for Marblehead.*

The gentlemen addressed resumed their places on the Committee, and so the Cat Island Imbroglio ended.

AFTERNOON SESSION.

By the polite invitation of Col. William L. Palmer, the lessee of the island and the buildings thereon, the Institute selected this pleasant seaside resort for one of its Field Meetings.

The large hall, erected for the various entertainments incident to these places, was appropriated for the use of the Institute during the day, and here were spread the tables for the lunch at 1 P. M., and at 2.30, the afternoon session was held.

The Meeting was called to order by the PRESIDENT. The records of the last meeting were read by the Secretary, and the usual routine of business was transacted.

The PRESIDENT alluded briefly to the progress that had been made in scientific research, and the increased

facilities for pursuing the same in our various educational institutions within the past fifty years. At that time public attention was being awakened to the importance of these investigations. Societies having these objects in view were organizing, the general government and the legislatures of the several states were making appropriations for scientific surveys of their respective domains, and the same were under consideration.

The introduction of the use of the dredge, the trawl, etc., by naturalists, especially by those connected with the U. S. Fish Commission, has been instrumental in adding largely to the knowledge of the marine fauna and flora of our coast. The arrival of Prof. L. Agassiz in this country, in 1846, marks an important era in the history of science. His lectures before the Lowell Institute, and elsewhere in the United States, created a zeal and interest in zoölogical studies; the formation of the Museum of Comparative Zoölogy at Cambridge, under his auspices, and the great progress in the development of his plans since his decease, by the liberality and persevering energy of his son A. Agassiz, will long remain as a lasting monument to his great and careful labors in this direction. Many of his pupils are now holding professorships in several of our colleges and schools of learning, and are doing good work in the promotion of the natural sciences.

The PRESIDENT then introduced the REV. SERENO D. GAMMELL, of Boxford, who made a brief and practical address, in which he compared the vastness of the ocean with the limitless domain of knowledge; but this largeness of the field should not discourage the beginner, for the more one studies, the more he will be interested, and the mind will be absorbed in the research and investigation. He also spoke of the power of self-restraint,

which is an evidence of manliness, as one of the incidental results of studious habits.

MR. H. SAZE, a Japanese student attending the Summer School of Biology, was introduced, and gave an interesting account of the cultivation of rice in a northern province of Japan. The following is an abstract of his remarks :—

The seed is usually sprouted before sowing. This is done by soaking it in water and then exposing it to the warm sun. It is sown broadcast, very thickly over a small patch of prepared soil which might be called a nursery. The plant grows in the nursery until it reaches the height of six or seven inches. Then it is transplanted.

The rice field is ploughed, manured, watered, and thoroughly stirred in early spring. The water must stand about three inches deep. Hence, the necessity of dividing the field into compartments. About the beginning of June, the transplanting commences. The young plants are set out in regular rows of bunches, six, seven, or eight inches apart. Before the plant advances too far in its growth, two or three weedings are usually necessary. The water is finally drawn off. The harvesting takes place during October. The cutting is done with the sickle.

The grain is threshed early in the winter. One handful after another of the straw is taken up, and the grain separated from it. The straw is kept for ropes, shoes, mats, etc.

The chaff is ground off by means of a large wooden or clayey handmill, not heavy enough to crush the kernel. Before it is ready for the kettle, the rice must be further refined by removing the brown inner seed-

coat which adheres very closely to the kernel. A wooden mortar and pestle are used for this final operation.

DR. GEORGE A. PERKINS, of Salem, whò had lived for nine years in a rice-growing country, gave a detailed description of the method of its cultivation as practised upon the western coast of Africa. This method differed in many respects from that pursued in Japan, and was substantially as follows :

The first step in rice cultivation in Western Africa, is the clearing of so much of the waste land as may be needed for a single year, the natives never planting the same land for two consecutive years. This clearing of the land takes place during the dry season, when all the trees and shrubs are cut down and allowed to dry, and is the most difficult and tedious part of the work. Just before the beginning of the annual rains, the wood, being properly dried by the heat of the sun, the whole tract, often of some miles in extent, is burned over; the intense heat destroying all the weeds, and the ashes being all the manure needed.

This tract of land may belong to a town or perhaps several of them, or even the whole tribe; each head of a family has a portion marked off and assigned to him, and this he divides among his wives, of which he may have one, two, or more.

When the first showers, which usher in the rainy season, begin to fall, the women repair to the farms, provided with rice-seed, a large snail shell—which will hold a pint or more—and a miniature spade; with this last held in the right hand, they dig a shallow hole in the earth, and by a skilful motion of the left hand, which holds the shell filled with rice, they let fall from four to eight grains of the seed into the hole; then, by a single

light blow of the spade, the whole is covered and the same operation repeated over the whole field at a distance of six or eight inches apart.

The planted field must then be very sharply watched to preserve it from the ravages of the small birds who visit the farm in thousands. This business is left to the women and children, but often the men must do their share if they hope to have any rice at harvest-time. This watching must be kept up day after day,—and often at night too, when the moon shines,—until the plant has so far grown as to cease to attract the birds. When the rice begins to head, it must again be guarded until it is fit to cut. This cutting is a tedious work, only one head is cut at a time; upon this they leave the straw about eight inches long, and this enables them to tie it in bundles just as large as the hand can grasp. Five of these handfuls are afterward again tied together to make a larger bunch. One of these large bunches seems to be the unit of measure in dealing with one another.

All the crop is to be transported on their heads from the farm to their fenced towns, a distance in most cases of two or three miles; it is there stored in the tops of their conical huts, where it is exposed to the smoke of the fires on the earthen floors below, and this preserves it from the attacks of insects.

When wanted for food, only a single day's rations are cleaned and cleared of the hulls at a time, by pounding in large wooden mortars, and the chaff is fanned away.

PROF. E. S. MORSE, after alluding briefly to the peculiar difficulties of the Japanese language, spoke of the great rocks with which the shore is lined, and which here and there dot the island. It was with reference to the effect upon them, of the glacial period, that explanation was made. Many years ago, the entire country

hereabouts was covered with a vast field of ice, which gradually moved southward. One of the evidences of this moving field of ice is the rounding of the large stones all over New England toward the north, and their ragged precipitous character towards the south; also the presence of boulders which evidently do not belong to this region. Reference was also made to the glaciers of Greenland and Switzerland.

Prof. Morse exhibited specimens of the *Pupilla muscorum*, which he had found on the island during the day, and considered this a new locality for this species. A communication prepared by him since the adjournment, on "The gradual dispersion of certain Mollusks in New England," contains a description of this *Pupilla*, and is appended to the report of this meeting.

REV. JOSEPH BANVARD, of Neponset, formerly pastor of the Central Baptist church of this city, made some excellent and practical remarks regarding the possibility of every one being able to gather much scientific knowledge, by keeping the eyes open and cultivating the habit of close observation. He urged the young people present to study the simple things in nature, and in so doing, they would not only find great pleasure, but great profit.

MR. N. A. HORTON, of the Salem Gazette, after a few appropriate remarks, offered the following resolution which was unanimously adopted.

Resolved, That the thanks of the Essex Institute be tendered to Col. William L. Palmer, for his polite invitation to hold a field meeting on Lowell Island, and for the courtesies extended to the members and their friends on this occasion.

Adj.

The gradual dispersion of certain Mollusks in New England.

BY EDWARD S. MORSE.

THE rapid dispersion of Mollusks, as observed in certain species, is of great interest in connection with the general distribution of species from certain centres.

The rapid invasion of large areas, by species not known to have occurred there before, may account for the wide distribution of species through certain geological horizons, where their progenitors in earlier deposits are not known. The sudden appearance of species throughout large geological areas has always been held as a strong point by those who argue against the doctrine of derivation.

In a long study of the Mollusca of New England for the past twenty-four years, I have observed many changes going on in the distribution of certain species which indicates a much more rapid invasion of areas than had before been supposed. Not only do we see this rapid introduction of forms from other centres, but some species of mollusks vary greatly in their relative scarcity and abundance, when observed over considerable lapses of time.

In my little work entitled "Observations on the Terrestrial Pulmonifera of Maine," forming the first part of the Journal of the Portland Society of Natural History, published in 1864, I commented on this change in the relative scarcity and abundance of certain species as compared with the observations made by Dr. J. W.

Mighels, a careful and enthusiastic worker in the same field. His paper was published in the Proceedings of the Boston Society of Natural History in 1843, and was entitled "Catalogue of the Marine Fluvial and Terrestrial Shells of the State of Maine" (Bost. Jour. Nat. Hist., Vol. IV, p. 308). The following is a brief extract from my paper above mentioned. The lines in quotations being taken from Dr. Mighel's paper, while the contrasts as observed by me are printed in italics.

Mesodon albolabris. "Solitary." *Great abundance.*

Anguispira alternata. "Abundant." *Not abundant, except on islands.*

Hyalina indentata. "Appears to be rare." *Not rare.*

Hyalina electrina. "Rare." *Quite common.*

Conulus chersina is more abundant than his words would seem to indicate.

Strobila labyrinthica. "Found sparingly." *Common all over the State.*

Pupillas and Isthmias. Were noted as found sparingly by Dr. Mighels. Most of the species are quite common.

Zoögenetes harpa. Is now abundant in several parts of the state, and particularly about Portland. Mighels did not find it at the time of the publication of his catalogue.

Succinea avara. Mighels mentions only one locality. It is now common all over the state.

Helisoma bicarinata. "Not aware that it is abundant anywhere." *Exceedingly abundant.*

Ancylus rivularis. "Found in plenty." *One of our scarcest shells.*

Radix ampla. This species was found in great abundance when first discovered in Eagle Lake in the northern part of the state, in company with *Physa ancillaria*.

In company with Mr. John M. Gould, I visited this lake in 1859, and a most careful search revealed only a few dead specimens of *R. ampla*, and not a vestige of *Physa ancillaria*. Mr. Fuller has since discovered the shell on the shores of Lake Sebago.

Dr. C. B. Adams first described a species of land snail known as *Pupilla badia*, as occurring in Vermont. The shell differed very slightly from a European species *P.*

muscorum, and as such Adams' species is now recognized, though I have already pointed out some slight differences in the two shells. Since Adams' discovery of the species, in this country, it has been found on certain islands in the Gulf of St. Lawrence, as well as in New York State. In the year 1862, Mr. Charles B. Fuller found it in Maine, near Portland. In some localities near that city, known to have been examined by early collectors without meeting with it, it has been collected by thousands. At Oak island, Chelsea, a famous collecting ground of Dr. Gould, Dr. Binney and others, no evidence of the existence of this species there is recorded. In the year 1860, Prof. W. C. Cleveland found it in the greatest abundance. In this case it can be positively asserted that the species has been introduced within twenty years. The collectors of Salem and Lynn had failed to observe its occurrence in Essex County. Last summer I discovered the species in great abundance on Lowell island in Salem harbor. From these evidences it is quite certain that this minute land shell is being distributed with considerable rapidity.

It will be found that, as in the case of plants, the land species of mollusks are being widely distributed through railway traffic. I have often found, at Portland, minute land shells clinging to firewood that had been brought from the interior of the state.

The remarkable rapidity in the diffusion of *Littorina litorea* is of special interest in this connection. This well-known European species was first observed on this continent by Mr. Willis, of Halifax, N. S., many years ago. Since that time, it has been rapidly and widely diffused along the coast of New England.

In 1870, Mr. Fuller found a few specimens in Portland harbor, and about the same time at Kennebunk in Maine.

It is now found in great abundance along the coast of Maine.

Before the year 1872, it had never been observed in Salem harbor. On the shore of South Salem, a place where I had repeatedly collected, only a single specimen was found in the spring of 1872. It is now one of the most common shells in the harbor of Salem, and actually swarms in countless numbers in all the inlets in the vicinity of Salem.

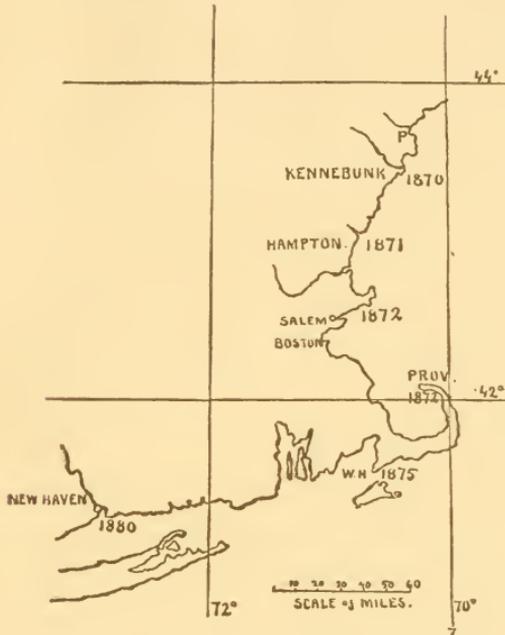
Professor Verrill, in a note to Silliman's Journal, for September, 1880, records his observations in regard to its diffusion, from which we quote the following :

"In 1873, it was collected in abundance at Saco, Me., by the U. S. Fish Commission, and was found sparingly at Peake's island, Casco Bay. In 1872, it was very rare at Provincetown, Mass., but in 1878, it was common there. In 1875, it was collected by the writer at Barnstable, Mass., on the shores of Cape Cod Bay, in large quantities. In 1879, it had become exceedingly abundant at Provincetown. In 1875, our parties found two specimens only on the southern shores of Cape Cod at Wood's Holl, but in 1876, it was found to be common there, and is now very abundant. The first specimen, found so far westward as New Haven, was obtained by Professor S. I. Smith, during the past winter. Other solitary specimens have since been obtained here by Mr. E. A. Andrews and by J. H. Emerton. It is at present exceedingly abundant at Newport, R. I."

In "Science News" for April 15, 1879, Mr. Arthur F. Gray comments on the occurrence of this species on the New England coast and gives a large number of places where it has been collected.

He first found it in Massachusetts, at Danvers, in the spring of 1872. He also mentions that Prof. J. W.

Chickering, jr., found it at Hampton beach, N. H., in 1871. The following rude map illustrates the gradual dispersion of this species from Maine southward, with the year of its occurrence marked at the different places.



EXPLANATION OF MAP.

P., Portland, Maine; PROV., Provincetown, Mass; W. H., Wood's Holl.

In 1872, it was observed simultaneously at Salem, Mass., and Provincetown on the end of Cape Cod. This Cape seemed to form a barrier for some time to its passage south, and after rounding the Cape, its progress was much slower. Its occurrence at Wood's Holl being observed in 1875, and only the past year had it got as far as New Haven.

A study of the ocean currents north of Cape Cod, which have a southerly course, will account for the rapid dispersal of this mollusk from Maine to Provincetown, Mass.; while the currents which set easterly south of

Cape Cod will account for its slower dispersion along the Connecticut shores.

It seems somewhat remarkable that this mollusk, for so many years an inhabitant of Nova Scotia and the Bay of Chaleur, should have been so long finding its way to the State of Maine. As far back as 1855, I received specimens of this species from Bathurst in the Bay of Chaleur.

The conditions are evidently very favorable for its existence along our shores, for it has increased in countless numbers, and the species seems to be fully as robust, and oftentimes exceeding in size its relatives in Europe.

Mr. Gray calls attention to the fact that this species, known under the common name of "periwinkle," forms an abundant supply of food to the poorer classes in Great Britain and Ireland, and there is no reason why the poorer classes here should not avail themselves of a mollusk so easily obtained.

Believing that, in past times as at present, the dispersion of forms took place in similar ways, it is interesting to look ahead to a time when the present mud and sand of the shores shall have been converted and consolidated into stratified rocks with the species entombed in a fossil condition. We may imagine a future Barrande finding material for an onslaught on the derivative theory by pointing to the abundant occurrence of this species in a narrow bed of rock of the same horizon and occurring over hundreds of miles of territory, when the beds just below reveal no vestige of this large and vigorous species.



Littorina litorea, Linn.

EXCURSION TO NEW CASTLE, N. H., FRIDAY AND SATURDAY, SEPTEMBER 10 and 11, 1880.

THE circulars, that were previously issued, announced that the excursionists would leave Salem on Thursday, the 9th inst., at 1.10 P. M., with the proviso of a postponement to the day following, if the weather should be unfavorable. Owing to the prevalence of a storm, the departure was deferred, and the party left on Friday, by the Eastern Railroad, reached Portsmouth at about 2.30, and at once took carriages to New Castle, making the Wentworth House, their headquarters. At the time of leaving Salem the weather had not entirely cleared, though indications were favorable and soon after the arrival at the place of destination, hopes were realized by the lightening up of the western sky and a glorious sunset was observed from the piazza. The effects of the storm were visible in all directions,—the dashing of the waves against the rocks, or rolling in on the beaches,—the wreck of a vessel breaking up, etc. Schooner *Eddie F. Hodgdon*, wood and slate laden, bound from Bangor to Boston, was compelled to anchor off Frost's Point, parted her cables, and the day before at noon drifted ashore, and became a total loss.

AN EVENING SESSION was held in the large music room at 8 o'clock. The PRESIDENT, in his introductory remarks, spoke of the great pleasure of coming to this old historic town, around which cluster so many interesting associations connected with the colonial and provincial periods of our history. These have been well described in the "Rambles about Portsmouth," by the late Charles W. Brewster, the first series published in 1859, the second in 1869, after the decease of the author. He alluded

to the meeting of the Institute held at Kittery, Me., on the other side of the Piscataqua river, in August, 1867; to visit, among other places of interest, the mansion once owned and occupied by Sir William Pepperell, the wealthy and enterprising merchant of the middle of the last century, who by his means and individual services contributed so largely to the capture of Louisburg, and was rewarded for his success and bravery with a baronetcy by George II.

In many of the old towns on the New England coast, the children, from the early settlement to the present time, have been wont to leave the old homesteads to colonize new places, or to seek the centres of trade, commerce or manufactures. We find them scattered over the vast territory extending from ocean to ocean, and from the Lakes to the Gulf, actively engaged in the various duties of life. Some visit the home of their ancestors and delight to examine the old records, and by diligent research and careful study endeavor to clothe in living forms this dead past. The collecting, arranging and preserving of the old papers and other relics, that will facilitate these researches, come within the province of the Institute.

Copies of extracts from some of the old documents in the office of the Registry of Probate for Essex county, were read to illustrate their character and the extent of the valuable material for history that may therefrom be gleaned.

VICE PRESIDENT F. W. PUTNAM was then called upon and gave a brief account of the Pueblo Indians of New Mexico and Arizona, illustrating his remarks by a series of large photographs taken by the government expeditions under Major Powell and Captain Wheeler. These

photographs showed the peculiar character of the houses, which consist of a number of rooms, placed side by side, and one over the other in three or four receding stories, the people living in the upper and outer rooms, while those which are dark and covered by others are used as storerooms. He showed how this plan of house-building had evidently been adopted as a means of defence, and how strongly fortified a town thus built was before the days of powder and artillery. The method of entering these houses was by placing a ladder from the ground to the roof, and so on from roof to roof. When the ladders were drawn up, the people were in comparative safety, and so long as provisions and water held out they could easily defend themselves before the days of gunpowder. These groups of houses often contained from 500 to 1,000 or more people; and while some, like the Pueblo of Taos, were built on the lowland and surrounded by an earth-wall, as a further means of protection, others, as the Pueblo of Acoma, were on high table-lands, or mesas, several hundred feet above the surrounding country, and could only be approached by narrow paths, which could be easily defended, when bows and arrows were the principal weapons. Some of these towns were, however, taken by the early Spanish leaders, and we have accounts of them as far back as the time of Coronado, about the middle of the sixteenth century. The Pueblo of Acoma, in particular, is interesting from the fact that it stands to-day, apparently unchanged, as it was first seen nearly three and a half centuries ago. The Pueblo of Zuñi is perhaps the best known of the southern towns in New Mexico, but as the present Pueblo, or New Zuñi, was built after old Zuñi had been taken by the Spaniards, it is of comparatively modern origin, although the people have, to a considerable extent, retained the

purity of their customs. The Pueblo of Taos, near the Rio Grande, has been often visited and described.

About Santa Fé, on both sides of the Rio Grande, there are many old pueblos, some of which are in ruins, while others have been, in great part, changed to Spanish-Mexican towns. In a few, however, the original inhabitants are still in the ascendancy. In many of the cañons and smaller valleys, and on many a mesa in New Mexico, Colorado and Arizona, as well as in southern Utah, and also to the south in Mexico, there are numerous ruins of once extensive towns, many of which have been described in the accounts of the various military and exploring expeditions. The "seven cities of Cibola," discovered by Coronado, have often been mentioned, and some writers have supposed them to refer to the ruins found by Lieut. Simpson in the Chaco cañon, a tributary of the San Juan, but the lecturer was inclined to argue with those writers who placed these "seven cities" in the region about, and including, old Zuñi.

The hundreds of ruins which are now known, including the singular cliff-houses or fastnesses, furnish the evidence of the former greatness of the pueblo people, and their wide distribution over a region which was probably once better adapted than now for the support of human life.

The lecturer then gave an account of the arts of the pueblo people, calling particular attention to the character of the pottery, of which he exhibited a number of specimens. This pottery differs widely from that found in the mounds and in other parts of the country to the east of the pueblo region, and is of a better type. That found about the ruins and belonging to the early period is baked harder, and in structure and ornament is far superior to that now made at the pueblos on the Rio Grande. That made at Zuñi, and the other southern pueblos, is more

like the old. The ornamentation is in color, generally black on white, or on red; occasionally a piece is found among the old fragments that has a glossy, bronze-like color. The decoration on the old pottery is principally made up of zigzag or geometrical figures; occasionally curved lines and scrolls were used. On the pottery now

FIG. 1.



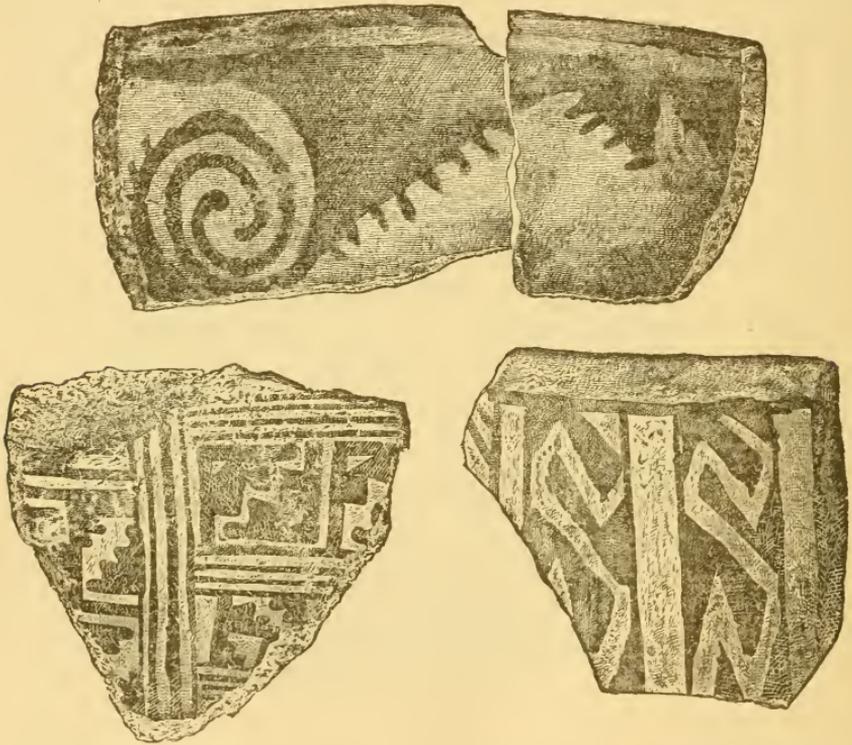
COIL-MADE JAR FROM AN ADOBE RUIN IN SOUTHERN UTAH.

FROM A SPECIMEN IN THE PEABODY MUSEUM.

made at the pueblos on the Rio Grande, the ornamentation is more often black on a red ground, and many figures derived from contact with civilization have been introduced. On the recent pottery, animals are often rudely represented. The recent pottery is not so well baked as the old, and is in every way of an inferior character. A common method of making one kind of the oldest

pottery was by coiling the bands of clay upon themselves, and leaving the edges projecting. Pottery of this character is often farther decorated by pinching the edges, or by marking with the finger nail, or with a stick. A jar made in this way is shown in the engraving here intro-

FIG. 2.



PATTERNS ON ANCIENT PUEBLO POTTERY FROM THE SAN JUAN VALLEY.

FROM SPECIMENS IN THE PEABODY MUSEUM.

duced¹, fig. 1; and some of the common forms of ornament on the smooth pottery are shown on the fragments represented by fig. 2.

¹These illustrations were prepared for an article on Pueblo pottery in the *Art Review*, and by the kindness of the publishers of that journal, Messrs. Estes & Lauriat, of Boston, their use is allowed in this place.

After Mr. Putnam had closed his remarks, the company adjourned to the parlors where several choice selections of vocal and instrumental music were finely rendered by members of the Salem Oratorio Society and the Salem Schubert Club.

ON SATURDAY MORNING the sun rose clear and bright, and the party during the forenoon rambled about in various directions as inclination dictated. Several interesting places were visited: Odiorne's Point where M. Champlain landed in 1605, and the place selected by the Laconia company for the site of the first building erected on the grant, and it should therefore be venerated by every citizen of New Hampshire for the associations that cluster around this beginning of the state. At Frost's Point a fort was built soon after the settlement called Fort William and Mary; in 1775 fortifications were thrown up, and in the fort a company of artillery was stationed. In 1808, it was rebuilt under the name of Fort Constitution and remained until a new structure was commenced in 1863.

The lighthouse, the village, the village church, the burial ground,—were all noticed. New Castle is situated at the mouth of the Piscataqua river, at the entrance of Portsmouth harbor, some three miles from the city, formerly known as "*Great Island*." It was settled in 1623 and was a part of Portsmouth. In 1693 it was incorporated under its present name. The charter under the seal of William and Mary, written on parchment in old English black letter, is said to be still in the archives of the town. This was the home of the Jeffreys, Atkinsons, of John Frost who married Mary, sister of Sir William Pepperell, a family of the Prescotts and other honored names.

At 3 P. M., adieu was said to mine host of the Wentworth House; the delightful situation, picturesque scenery and surroundings, with first-class hotel appointments, have given to this house a prominent place among the seaside resorts of New England. On the way to the railroad station in the city, tarried for an hour at an old mansion,

THE HOMESTEAD OF GOV. BENNING WENTWORTH, who built it in 1750, and occupied it until the termination of his commission in 1767. Situated at Little Harbor about two miles from the centre of Portsmouth near the bank of the river, it commands an extensive view of Portsmouth, the navy yard, and adjacent and opposite shores.

Mr. William P. Israel, the present owner, conducted the party through the several apartments, pointing out the various objects of interest and referring briefly to some of the old historical associations. The following may be specified :

The council chamber, finished in the best style of the last century, an imposing and high-studded room, where meetings of the council were held, for many years; also the little side rooms. Ascending a short flight of steps is the spacious parlor, rich in its original finish.

In these various rooms were collected many interesting and curious objects; pictures, a spinet, furniture, etc., that would require considerable time to, carefully, examine. The most notable of the pictures was a painting, by Copley, of Dorothy Quincy, who became the wife of John Hancock, and afterwards Madam Scott.

Leaving the old mansion, the party proceeded to the cars and took the 5 o'clock train for Salem, arriving at 6.35 in the evening.



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