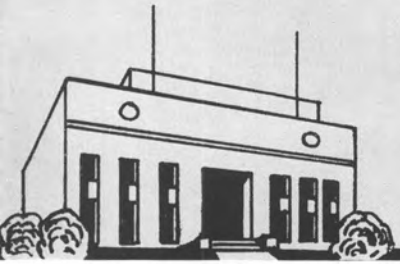

MUSEUM SERVICE

Bulletin of the
Rochester Museum of Arts and Sciences

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Volume 36 **January 1963** **Number 1**

Rochester Museum of Arts and Sciences – *Dedicated to a Better Understanding of the Laws of Nature and the Cultural Achievements of Mankind* — is administered by the Municipal Museum Commission for the City of Rochester.

W. Stephen Thomas, *Director* Edward T. Boardman, *Assistant Director*
Mable S. Smith, *Editor*

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Cover Picture . . .

Poetry is expressed in the photographic art of Miss Jeannette Klute, research photographer in the Color Technology Division of Eastman Kodak Company. The Arrowhead, *Sagittaria L.*, (which takes its name from *sagitta*, an arrow, from a prevalent form of the leaves), takes on a new dimension in sparkling water. This is one of fifty pictures in a new series by Miss Klute titled, "The Color of Water." The series is being shown for the first time and will be on display through February 12.

Please Help . . .

With the increase in postal rates and exacting postal regulations, may we ask your help in keeping our mailing lists up-to-date? Last month 18 copies of *Museum Service* were returned at a cost of 8c each because of an insufficient or an incorrect address. Won't you please call (BRowning 1-4320) or write us so that we may correct our records?

PROJECTING THE MUSEUM IN 1963

A stimulating point of museum operation is the changing pattern of the public a museum serves and the flexibility of the museum itself. As well as being a veritable treasure house of objects of historical, scientific and cultural value, the Rochester Museum of Arts and Sciences is a progressive school for all types of students. The Board of Commissioners, responsible for policy and guidance, and the Museum staff itself must be ever alert and prepared to serve a constantly growing and changing audience. The record of the past twelve months, judging from the research projects conducted, the reaction to our classes and courses and from the great variety of offerings in our exhibits, indicates how we can improve and expand our programing for the coming year.

In archeology our curators will extend their present schedule of research investigating pre-history and history of the Senecas. This involves the cooperation of the Lewis Henry Morgan Chapter and its study group of amateur archeologists. The activity includes compiling a vast amount of data on sites and the actual excavation and recovery of material. Our museum exhibit designers and artist-preparators will continue their long-term task of constructing a series of full-sized dioramas of several aspects of the natural history and ecology of the area. These displays now in the process of building comprise an exhibit on soil organisms including mites and nematodes. There will be another on the fauna and flora of Bergen Swamp. On January 31, we will open the important scale model of a Rochester flour mill of the 1850's. This historic diorama demonstrates the growth of the city as a town so thoroughly dependent on the water power of its mills in its early days. Happily, the exhibit combines history with technology and is the first of a series of displays which we hope to have for eventual use in the projected new building of industry.

Our growing activities with the schools present a challenge as more and more students come to depend upon the Museum's service to supplement the study of the classroom. We are projecting a new series of portable industrial exhibits in cooperation with local firms.

Temporary exhibitions planned for the coming months combine variety and depth of interest. Among others, we will open on January 15 a showing of sketches of flowers as well as porcelain with floral decorations; on February 14, with the sponsorship of the Rochester Civil War Roundtable, there will be a display of a battlefield diorama of Pickett's Charge at Gettysburg. The 28th Kodak International Salon of Photography will start on February 15 and extend to March 4. As the months advance, we will offer an ever improving program of events and exhibits challenging all people with knowledge and inspiration.

W. Stephen Thomas, *Director*

An oriental wall hanging lends a mysterious eastern influence for the biwa, the lute-like instrument, flute and the hourglass drum.

Music Around the Globe

Many geometric forms of musical instruments from around the world provide an exciting visual stimulus. A crudely made drum from South America swells into a lovely oblong shape. However, the exotic lines of the oriental instruments are extremely appealing and express the sparkle of life associated with these people.

The sitar of India, member of the lute family, is for the more ambitious soul. It is plucked while sitting on hard floor mats, and is a favorite at social gatherings where much of the music is composed on the spur of the moment.

Standing in the valleys and hills of Tibet one might hear the powerful sounds of the seven-foot Tibetan trumpets. The monks blow these in worship of the Dalai Lama, highest priest of the Lamaist religion.

From the Philippines we find an interesting variation of the flute, one played by blowing through the nose! In the Hawaiian Islands the calabash drum, a member of the real Hula orchestra, is uniquely played, held between the outstretched arms and knees of the performer and dropped gently to the ground. It is also unique in its association with "religion." The calabash grows in bright sunlight and is guarded against shadows that might mar its perfection in contour.

These are just a few of the sixty-six instruments on display representing twenty-one countries. All are played today.

—Nancy R. Rosenberg, *Educational Assistant*

Music Around the Globe—musical instruments of foreign lands on exhibit through the month of January.

The Color of Water in Nature

By Jeannette Klute*

WHEN COLOR is mentioned in regard to nature, most people think of the color of flowers and green leaves, the blue of the sky, the plumage of birds, or the blue of mist.

Color in nature to me means the constantly changing, ever evolving colors brought about by the change in the time of day, the nature of the weather, the wetness or dryness of the plants. The green of wet leaves is a very different color from that of any of the leaves when they are dry.

Wild flowers lighted by the late afternoon sun have a glow that is never seen at noon. The whole scene changes when a cloud passes over the sun. A pond will take on a whole new character with a change in the lighting.

Many times we are not aware of the color of the light unless we stop to think about it, and yet it may be just this color which makes us feel the scene or object as beautiful.

The object which changes the most, fitting its appearance to any condition that arises, is water. By a study of water in pictures it is possible to see clearly the wide range of appearance that nature can have.

The current series of pictures is entitled "The Color of Water in Nature." Each picture contains water. In putting the collection together I have tried to emphasize the different colors and qualities of water. The actual subject matter varies a great deal but in each case it is the water to which I would like to draw your attention.

Water is often thought of as blue since many times it reflects the sky, but a stream in the woods will frequently reflect the green leaves of trees surrounding it. Water can be purple or bright red depending on the surroundings.

Water is a challenging subject for the color photographer and is also capable of aiding him in producing pictures of highly dramatic or subtle quality. In some cases it is not the water itself but the way it transforms objects. We all know how different a garden looks after a fresh spring rain.

On a recent trip to Japan I was particularly fortunate to experience a Japanese garden in the rain and was pleased to learn the Japanese prefer their gardens when it rains because they are considered most beautiful when wet. Later in the trip I visited the famous Shalimar gardens in the Kashmir and was somewhat disappointed. I wished at the time that the fountains had been operating and that the reflecting pools had been filled with water. I am sure my impression would have been quite different.

While I have drawn your attention to water in this note and in the particular series of pictures, I would like to point out that my aim in photography is still to attempt to make pictures which are new entities in themselves. I am not trying to copy nature.

*Jeannette Klute, research photographer in the Color Technology Division of Eastman Kodak Company.

THE COLOR OF WATER IN NATURE exhibition of photographs will remain on display through February 12 in the special exhibition hall on the second floor.

A Point Peninsula Burial

By Charles F. Hayes, III, *Associate Curator of Anthropology*

THE ROCHESTER MUSEUM OF ARTS AND SCIENCES was informed by Michael J. Ripton, of the Lewis Henry Morgan Chapter of the New York State Archeological Association, that skeletal material had been removed by construction personnel on July 18, 1962, near Float Bridge, Penfield, New York. As a result, two days were spent conducting salvage operations which produced a nearly complete skeleton and an unusual assemblage of artifacts.

Thanks to the cooperation of members of the Spagnaletti Construction Co., of Binghamton, N. Y., Mr. Robert Pattridge, engineer for the State of New York, and Dr. Robert M. Greendyke, Monroe County Medical Examiner, archeological salvage was made successful without any of the complications that are often unavoidable in such cases.

Edmund Carpenter reported a "mound" at what he called the Plum Orchard site (Roc 26-2) in 1940. Where the burial was encountered, in 1962, is now estimated to be the western extremity of a former hill 125 feet above Irondequoit Bay. The burial evidently was below a 1'-2' clay cap in stratified glacial lake sands so common in the area. Unfortunately the burial fell as a unit into a heterogeneous pile of artifacts and bones on the talus slope of the sand hill. Thus, there was no positive way of determining the position of the individual when interred. Salvage work by Miss Rachel Bonney, junior anthropologist, Dr. A. Francis Turner and Ronald Pappert, field assistants, and the author was limited to a thorough sifting of the fall area on the slope. Testing on top of the sand hill revealed no further evidence of burials.

Through the kindness of William S. Cornwell, Research Fellow of the Museum, a detailed skeletal analysis was made. The material represents an adult male estimated to be about 45 years of age and 5 feet 7 inches tall. Red ocher stains were seen on most of the bones and a large accumulation was discovered along with an imbedded discoidal shell bead between the spine of the right scapula and the blade. In general the individual was skeletally healthy and did not show evidence of dental disease. According to one current classification of American Indians (Neumann 1952:33), this person was of the Walcolid variety characterized by a tendency toward roundheadedness, a flatter face, a more highly placed occiput and greater muscular relief than the later Indian inhabitants of the northeast.

Stone artifacts from Plum Orchard Site.
1-2, celts
3, adze
4-5, cache blades.

Bone and antler artifacts from Plum Orchard Site.
1-4, harpoons
5, hafted beaver incisor
6, deer scapula scraper
7, notched shark tooth
8-9, shell beads
10-11, flaking tools
12-13, antler blanks.

Although similar finds of this type have been recovered from western New York, such as the Wray site in Monroe County and the Kipp Island site in Seneca County (Ritchie 1944), these sites are still rare. The artifact assemblages are particularly noteworthy. At the Plum Orchard site four unilaterally barbed antler harpoons were found and range from 2¾"-10⅞" in length. Other bone artifacts include a rectangular shaped deer scapula scraper 6⅛" long, three antler flaking tools ranging from 4⅛"-5⅜" long and a fragment of an incising tool consisting of a beaver incisor hafted in antler. Of considerable interest are two fossil shark teeth both 1⅝" long and modified by notching the bases and sides. These teeth probably reached the area by trade from the south Atlantic coast.

Shell beads of two varieties were recovered. Three are rectangular, perforated lengthwise and average 1⅛" in length. Two others are round shell beads, ⅜" in diameter. One of these was found imbedded in the mass of red ocher on the scapula.

Stone artifacts consist of one fragmentary gabbro celt and a complete slate example 6¾" long, a diorite adze fragment and two flint cache blades. One blade is 2⅜" long, triangular and has a straight base. The other is 1⅝" long, pentagonal and also has a straight base.

Other items recovered in the sifting process included an antler harpoon blank, a slightly worked antler tine, one loose beaver incisor, a problematical fish bone awl and a slate blank possibly intended for a gorget. The Museum is grateful to Charles F. Wray, Fellow of Rochester Museum, for the identification of the specific rock types.

As yet there is no Carbon 14 date available for this particular cultural manifestation in New York State. On the basis of the artifact assemblage it can be termed Late Point Peninsula (Ritchie: personal communication) or Middle Woodland. (The early Woodland period is believed to have begun about 1000 B.C. on the basis of Carbon 14 dates.) Outside New York State finds of a somewhat similar nature in Minnesota have been dated as Late Woodland (Wilford 1955:141). In any case it is believed that these people were fishermen as well as agriculturalists.

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Floral Painting: *A Family Heritage*

HEREDITY OR ENVIRONMENT? Undoubtedly the latter, for a child brought up in a family where everyone paints and draws looks upon it as a natural form of expression. And so it was that the family of John Armstrong Jeffrey and Elizabeth McConnell, his wife, of Edinburgh, should all paint and draw. In Victorian days painting was regarded as the usual accomplishment; but this family seemed to carry it farther; studying, drawing and painting a large part of the time. John Jeffrey, son of the Rev. Andrew Jeffrey, D.D., was a graduate of Edinburgh University Law School and was a prosperous practicing barrister in that city.

It was a large family; there were nine children, five girls and four boys and the large house must have been a gay place, when they were growing up. All the children, even the boys, drew. Elizabeth (born 1803) was looked upon as the best artist and had studied in London as well as Edinburgh and no doubt assisted her younger sisters, Jane (born 1805), Agnes (1806) and Isabella (1810). Agnes, after studying painting in London, came to America in a sailing packet—a voyage which lasted more than a month. However, it was a pleasant interlude in a congenial (though previously unknown) passenger list. Fresh vegetables were grown in the life boats, champagne was served at dinner and a cow provided fresh milk.

She stayed for a few days in New York with her aunt, Mrs. William Renwick, and then came by Erie canal packet to Rochester and thence to Canandaigua where her brother William was living. After the death of his wife, she returned to Canandaigua to care for his two little girls. He had been asked by Mr. Greig, a friend of the family, to come to America when he had finished at Edinburgh Law School to act as his lawyer in the affairs of the Phelps and Gorham Purchase. Later Mr. Jeffrey opened law offices in Rochester and they lived in Livingston Park, heart of the old Third Ward. After his death, his estate was mismanaged by his executor and Miss Jeffrey supported the two little girls, Clarice and Mary, by giving art lessons to many of the young people of Rochester families. Among these was Emily Sibley who, as Mrs. James Watson, gave the Memorial Art Gallery.

Miss Jeffrey was a remarkable woman. Her painting of American wildflowers took the first prize at the Crystal Palace World Fair in London in 1850. She was a Bible student who had a class at old St. Paul's Church as long as she lived. She read the whole Bible every year. She was an authority on the botany of the day and at age seventy she took up the study of Italian, that she might read Dante in the original, and spoke it fluently. She died in her sleep when ninety having painted the very day of her death.

Both of her nieces painted. Clarice taught in the Mechanics Institute, (now Rochester Institute of Technology), making her specialty china painting in which she excelled. Mary painted charmingly and continued even after her marriage to A. Byron Smith. The fourth generation is their daughter Virginia Jeffrey Smith.

FLORAL PAINTING: *A Family Heritage* reflects the painting of four generations, and will be on exhibition in the second floor gallery from January 15 through February 12.

Toys of yesteryears to delight the hearts of young and old.

The Magical World of Toys

To many children the world over, Christmas brings visions of brightly wrapped packages full of wonderful toys. That is why members of the school service division selected toys from its collections for display in a mezzanine club room which is usually reserved for junior activities and is rarely open to the public.

The wall cases represent store windows crammed full of fascinating toys from many parts of the world. Toy soldiers of the World War I era march in one window with a lovely French doll in 18th century costume watching over them. In another, a teddy bear pushes an antique doll carriage filled with German mechanical toys. For the unusual there are Hindu dolls made of cow dung, Pueblo Indian Kachina dolls and Eskimo ivory toys. Those who like games will find Lotto, Authors, Parchesi and Checkers. And little musicians will be charmed by the drum, the piano and the trumpet. Yo-Yo's, blocks, puzzles, tops and other little toys are tucked away in the corners of the store windows.

Children can peer into the windows and let their imaginations take them through lands both real and make-believe, while parents and grandparents see toys that may recall many happy childhood memories.

—NATALIA BUTTNER, *Educational Assistant*

THE MAGICAL WORLD OF TOYS—on exhibit in the mezzanine club room through the month of January.

Three Decades of School Service

By Gloria C. Gossling, *Head, School Service Division*

THIS ACCOUNT of the illustrious history and growth of the School Service Division of the Rochester Museum of Arts and Sciences is written from the viewpoint of an objective observer rather than that of a "new" head of the division. New because, in its 32-year tenure, there have been only four persons in charge of the educational program. It is virtually impossible to cite every noteworthy event, for that would fill a book. Instead, the writer shall give highlights of each decade since the division was conceived.

1930-1940

Even before the inception of a formalized department, educational work was being carried on in the Museum under the spirited and sympathetic guidance of Dr. Arthur C. Parker, then museum director. Dr. Parker, an extremely education-minded museologist, stated in 1926 that "the modern museum is not interested in relics or curiosities. It is an educational institution of a unique sort. It educates, inspires and it explains. It is the reflection of the university and the physical laboratory. It grips vital interests and satisfies those hungry for an interpretation of life." In the absence of a teaching staff or a formal education department, Dr. Parker encouraged school visits for which he and the curatorial staff presented the lectures only upon request. The orderlies would conduct general tours, or the teacher could take the class through the Museum. Class attendance averaged two a day.

In February of 1927, the Museum Commission authorized the use of museum objects for an extension service to the schools or other public institutions. Museum exhibits, properly arranged and labeled, were distributed to the Rochester schools. The exhibits included pictures, "moving picture reels" and lantern slides. Lecture rooms for both large and small groups were provided for class lectures.

As teachers discovered that "there is something in the Museum that appeals to pupils of every age" they brought their classes in ever increasing numbers. A 1928 report stated that "several hundred school classes under the guidance of teachers have come during the past ten months." Eventually it became evident that a specialized department was needed. Therefore in February 1930, the Municipal Museum Commission established a division of education to concern itself with the requirements of the schools and adult education. Mrs. Annie Olmstead Peet was the first person to direct this work, a post which she held until 1933 when she joined the staff of the Museum of the City of New York. Under her able guidance, an educational program was launched and the loan service began to grow with the addition of thousands of pictures illustrating geography, travel, industries, nature, ethnology, mechanics and literature, as well as many other subjects.

In the first nine months of the organized division, the Museum responded to 261 requests for loan exhibits and 111 requests for lantern slide sets.

In 1931, the popular and famous TREASURE CHEST programs were inaugurated and leaped to immediate success.

In the year 1933, Miss Marion R. Peake, whose influence was to be most strongly felt in the coming years, came to the Museum as a volunteer and took a museum training course under Dr. Parker. The following year she was appointed assistant in education.

The Extension Division acquired a new head, Mr. C. Carleton Perry, in 1933, who served in that capacity until 1942. The division continued to grow until it was necessary, in 1936, to provide larger quarters in the old building in Edgerton Park, with shelves and storage space added. While Carleton Perry was carrying the sphere of the Extension Division into the community with a newly inaugurated Hobby Council and adult study clubs, Miss Peake devoted her efforts to programs for children. New exhibits were added for loans to the schools. These included a series of models depicting the history of water transportation on the Nile River and the Mediterranean Sea, a diorama of a Chinese harbor scene and a model of a Phoenician bireme. The division had begun in earnest to enlarge its scope. A NATURE TRAILS club for children was organized and field trips were conducted weekly during the summer. It was a highly successful beginning to a major club program. A new museum truck was purchased to facilitate transportation of loan materials from the Museum to the city's public schools.

In 1937, the Extension Division began a series of radio sketches over station WHEC, describing important historical events connected with early Rochester. Several accessions made this a banner year for the division and greatly increased its loan exhibits.

Other highlights of the first decade were a museum training course given during the summer of 1938 under the supervision of Miss Peake for two staff members of the Kalamazoo Museum and a candidate for an advanced graduate degree at the University of Rochester.

The Division of School Service was formally created by the Museum Commission in 1938. A new looseleaf catalogue of loan materials was produced; the Pantomime Players youth club was created. In 1939, another new club, Ability to Act, or "A.T.A." was formed. Demands on school service tripled, producing a problem in filling orders.

The first ten years produced great increases in services, programs, loan materials and children's clubs. Under Miss Peake's inspired guidance, new clubs were offered. The Saturday morning Treasure Chest programs gained in popularity, displays of special exhibits from school service were installed in school corridors and display windows of business houses, special programs were planned for civic clubs and festivals, and there was a notable increase in efficiency in work methods.

1940-1950

By 1940, the School Service Division had advanced to a position of national prominence. It was written in the January-February issue of *Museum Service* that "the Rochester Museum of Arts and Sciences has the nation's largest school service especially designed to meet the daily needs of the classroom. It serves between 38,000 and 90,000 pupils each month," a larger number by far than the yearly total in the first decade.

Exciting news in 1940 was that ground was broken and the excavation begun for a new museum building at the corner of East Avenue and Goodman Street. The School Service Division would have capacious quarters in this new building.

Miss Peake spent the years 1943 to 1946 in military service as a member of the Women's Auxiliary Army Corps. After her return to the Museum, the work of the division began to move forward again. New clubs were added to the junior club program, making possible the wider catering to children's diverse interests. By 1947, the clubs offered were NATURE TRAILERS, a field study club for 11 to 14 year olds; NATURE DISCOVERERS for 8 to 10 year olds, EXPLORERS CLUB, CABINET MAKERS, MODEL MAKERS and COLLECTOR'S CORNER.

In the fall of 1947, the division offered a summer workshop, under Miss Peake's supervision, to instruct teachers in museum techniques. That year also saw the inception of the NATURE LEADERS' INSTITUTE for adults who work with children in summer camps or scouting.

1949 ushered in the inauguration of illustrated lectures for children of Museum Association members. This grew into the Audubon Screen Tours in 1950 sponsored by the Rochester Museum Association.

While this second decade did not give evidence of the startling growth of the first, it was, nevertheless, an important period marked by some innovations and many additions to services of the division. Most of all, it was a decade during which the division and the Museum which spawned it achieved national and even international prominence, when its types of services became a model for museums everywhere.

1950-1960

By 1955, school service had increased so that its lectures to school groups reached a total of 16,813 individuals in a total of 483 lectures. Exhibits circulated totaled 3,368 units, used by 144,838 people, an annual increase of 28,875.

By 1956 there were ten staff members in the division. There was a noticeable increase of use of school lectures and circulating loan exhibits.

Girl Scout volunteer service was begun in 1957, providing personnel for guides and ushers during weekends.

Kaleidoscopic view of the Museum's wonderful world of children.

1958 witnessed the initiation of an industrial exhibits project. Under the supervision of Miss Peake, Mrs. Verner C. Kreuter, Jr. and Mrs. Frederic S. Welsh, Jr. contacted administrators of Rochester industries to seek their cooperation in preparing exhibits for school use. This resulted in twelve unusual and interesting exhibits which show facts about some of the industries which have made Rochester great.

Also in 1958, Keuka College sent a student for a period of five weeks as a part of her field work training—a practice that has continued.

Other innovations of 1958 were a workshop for teachers covering "Museum Techniques for the Classroom," and the inception of the Counselor Training Program to provide training in nature and crafts for young people interested in becoming summer counselors.

Miss Peake celebrated the 25th anniversary of her affiliation with the Museum in 1959. They were 25 busy and productive years filled with many activities and characterized by changes and growth.

A training course for Senior Girl Scouts to serve as museum aides was offered for the first time in 1959; its aim being to provide information about the Museum and to prepare the girls for their weekend duties. An unusual event of that year was a stamp exhibition held by members of a recently-formed JUNIOR PHILATELIC CLUB, a club for young people under 18 interested in stamp collecting.

These years were good years. They brought much gratification to the staff for the worthwhile work done with and for children.

1960-1962

In the first year of the fourth decade, the division suffered a great loss when Miss Peake retired. The division had been so much the result of her fertile imagination, good common sense, fine cooperation with teachers, inspired planning, genuine love of her work and understanding of the needs of the schools.

Upon her leaving the Museum, Mrs. Irene D. Reitz, assistant head of school service, served as acting head for a six-month period. She was succeeded in July of 1960 by Miss Gloria C. Gossling, a teacher and former education director at the Franklin Institute in Philadelphia.

What has transpired in these intervening two years? What progress, if any, has been made?

This period brought about cooperation between the Museum and the Rochester Council of Scientific Societies in planning and conducting career counseling days for high school science students during Christmas week. The Museum held an exhibit in 1960 and 1961, on the first floor, of the award-winning science projects at the Brockport Science Congress.

Clubs have grown in number and size; whereas there were six in the summer of 1947 in contrast to fourteen in 1962, there were 618 enrollments in

1962 as compared with 150 in the summer of 1947. In addition to the summer club program, there also is a winter counterpart offering eight clubs, after school, to children from 1st grade through high school.

Close cooperation with Junior League volunteers, begun by Miss Peake in the late 50's, continues with productive results.

Many new dioramas have been added and literally hundreds of artifacts from many lands have been presented as gifts to the division or purchased in an effort to increase continually the offerings to the schools.

A new telescope presented by Mrs. Homer A. Harvey, of Canandaigua, was given permanent housing on the roof adjacent to the 3rd floor meeting room. Members of the Astronomy Section of the Rochester Academy of Science, under the sponsorship of school service, conducted weekly star parties for the public beginning in April, 1962, and ending about November 1. This program will continue in 1963.

The one major change in programing made by the new head of school service concerned the TREASURE CHEST programs. After careful consideration and evaluation, it was deemed advisable to discontinue these programs (which had so marvellously instructed the children of Rochester for thirty years) because of the change in children's interests. Therefore a new type of program was offered with extremely good results. Called the TREASURE CHEST OF SCIENCE, the new series offer six demonstrated or illustrated lectures in natural science, physical science and ethnography presented by well-qualified specialists in their respective fields.

In 1961, 627 lectures were given to school classes totaling 19,733 children; an additional 16,776 were served through clubs, Audubon Screen Tours, Treasure Chest of Science programs and other miscellaneous offerings. Use of loan exhibits soared to 4,180 for the year, which were used by 167,651 individuals.

And what of the future? What will this decade bring to school service? It is the aim of the Museum to keep close touch with changing trends in education, in children's attitudes, interests and needs, and to up-grade programs accordingly. Programs must be timely and needed to be appreciated and worthwhile.

A new Planetarium for the Museum, which is planned for the foreseeable future, will open many new avenues of endeavor for school service. Astronomy and various phases of physical science will add a new and exciting dimension to the work of this division.

It is hoped that new courses can be offered with inservice credits for teachers and with undergraduate credits for university students.

The writer has found her two years as head of school service demanding yet challenging, intriguing and most satisfying. It goes without saying that the next eight years will bring many changes and numerous new challenges. The greatest challenge of all has been, and will continue to be, that of following in the footsteps of her exemplary predecessors.

Book Review

Silent Spring. By Rachael Carson. (Houghton Mifflin Company, Boston, Mass., 1962. Pp. 368. $5.00.)

Not since Harriett Beecher Stowe wrote Uncle Tom's Cabin has a woman author written such a controversial book as this latest one by Rachel Carson.

Readers of Miss Carson's vivid "The Sea Around Us" and "Edge of the Sea" and "Under the Sea Wind" found in her a scientific writer with a command of language and fact that made every reader delight in learning about the ocean and about sea beaches. These same readers may be amazed to find that she has converted her pen into a Crusader's sword. In this detailed and well-documented study of the effects of insecticides and weed killers or herbicides upon wildlife in general, upon fisheries and upon the health and even the reproductive tissues of man, Miss Carson shows that we are risking our future by using certain new chemicals of dangerous, cumulative and far-reaching effects.

I will risk the prophecy that, although Miss Carson is accused by certain reviewers of exaggerating the dangers of pesticides, she will not be proven to have her main facts wrong. Of course, since she quotes from fifty-five pages of references that cover over fifteen years of reports on the findings of research workers in wildlife, medicine, medical pathology and genetics, some one of her sources may have been in error.

The author herself is an experienced biologist and science editor, having had years of experience with the United States Fish and Wildlife Service, which did pioneer research on the effects of DDT and subsequent pesticides on wildlife and found them disturbingly bad.

Several years ago many biologists who were doing field work, fish and game workers; also, fisherman, bird watchers and similar laymen, realized that spray chemicals were obviously destroying many birds, game fish and other forms of life. They also discovered that it was hard to prove the reason for the mortality. Many of us handled paralyzed and dying birds in areas where new types of insecticides and herbicides had just been used; but even our government agricultural people tried to persuade us that the chemicals aren't responsible "and besides, when you use something so beneficial you have to expect a few side effects." Some chemists came up with the ingenious alibi, "Aspirin is one of the very safest drugs yet more people die each year from aspirin poisoning than from pesticides." As Miss Carson points out in well-supported detail, most of the new chemicals used for the control of pests are very different. They are organic chemicals that are allied to the chemistry of our living tissues. They accumulate in fat, liver, nervous and reproductive tissues so as to not only destroy their intended pest victims but to accumulate in the tissues of many associated organisms, including man.

A prominent government pest control worker and paid consultant of the pesticide industry stated in his review of "Silent Spring" for the *Chemical*

World News, "The 'Silent Spring' poses questions on which neither the author nor the average reader is qualified to make decisions. I regard it as science fiction . . ." This strongly scornful and paternalistic attitude is very interesting when one talks with wildlife management people, with hospital pathologists and with geneticists, and finds that they agree with Miss Carson's plea for a more restrained use of dangerous chemicals and an increased use of such promising alternatives as biological controls.

When one realizes that each of these new miracle pesticides is a poison potentially dangerous to man, his livestock and his fisheries, and that these poisons are used in massive amounts, often broadcast from airplanes, and that they are spread by relatively ignorant workmen, the danger is evident. When one thinks of the western cranberry growers who broke the federal health rules three years in succession by spraying a dangerous, carcinogenic weed killer on the growing berries, or thinks of the lawsuits of New York Southern Tier fruit growers against the counties whose roadside brush-killing sprays spoiled grapes and other fruits a quarter of a mile or more downwind, or hears of a local farmer who exuberantly (or because of poor arithmetic) treated his cornfields to over three times the proper and recommended dose of weed killer so that he ruined his corn crop, one realizes that this whole matter of pesticide use needs re-examination.

The *New Yorker Magazine* published the shorter first draft of Rachel Carson's "Silent Spring." The Book-of-the-Month Club published a huge edition of the book. The many reviews have been laudatory, if one excepts the reviews in chemical and pesticide trade publications.

If you value the life around you, the health of your family and consider the possible effects upon your descendants, be sure to read this book to the end.

—EDWARD T. BOARDMAN, *Assistant Director and Curator of Biology*

About the Reviewer

As many people in the community know, Dr. Boardman has been interested in the effects of pesticides upon birds, particularly ever since he and many others saw the effects of community-wide use of elm beetle spray on the bird population. The even more dramatic effects upon birds by pesticides used upon home lawns and on golf courses made him correspond with other biologists around the country, as well as to follow the scientific literature appearing on the subject. When word came about three years ago, that Rachel Carson was working on a book on the subject, he says he was greatly relieved because ever since he had first known her as a fellow graduate student at Johns Hopkins University, he has respected her as an unusually conscientious scientist and science writer. He was positive that she had the science background to present the facts. He states that he can't blame Miss Carson for going beyond a cold reporting of scientific data to make an emotional appeal to the American public. Why wouldn't she have strong feelings when she believes that the evidence shows that these poisons are depleting our natural resources, affecting our health and may affect the genetics of unborn generations. He says, "We worry about the effects of the atom bomb. Are we sure that the unrestricted use of organic pesticides will be any less dangerous?"

Illustrated Lecture

Wednesday, January 16, 8:15 p.m.

3000 YEARS UNDER THE SEA • ***Stanton A. Waterman***

Underwater archeology ... unlocking secrets of an ancient world from the Aegean Sea and the beauties of the shores above.

Worlds of Science Adult Series sponsored by the Rochester Museum Ass'n

Youth Programs

Treasure Chest of Science • Saturday, January 12, 10:30 a.m.

WINDOWS ON SOUTH AMERICA by Geraldine McMullen

Teacher at No. 35 School

Life among the Peruvian Indians in the Andes Mts. and a closer look at some of our friends in Latin-America.

Audubon Screen Tour • Saturday, January 26, 10:30 a.m.

LITTLE KNOWN NEW JERSEY by George Regensburg

Teacher in Trenton, New Jersey

A turtle laying eggs, a spider catching its dinner, a duel of sandpipers ... a vast area of outdoor beauty.

Youth Series sponsored by the Rochester Museum Ass'n

REGISTRATION FOR JUNIOR CLUB PROGRAM

Crafts, Natural Science, Social History, Drama and Folk Dancing

Saturday, January 5, 8:45 a.m. — 11:45 a.m.

SPECIAL EXHIBITIONS

Mezzanine — **MUSIC AROUND THE GLOBE** — Musical instruments of foreign lands. *On exhibit through January*

THE MAGICAL WORLD OF TOYS — Old-fashioned store windows with displays of toys from past and present. *On exhibit through January*

Library — **IVORY CARVINGS FROM JAPAN** — From the collection presented to the Museum by the late Mr. and Mrs. Otto R. Rohr. *On exhibit through January*

2nd Floor — **FIFTY YEARS OF ANTHROPOLOGY** — The story of research, publication and exhibition of the Division of Anthropology. *On exhibit through January 6*

THE COLOR OF WATER IN NATURE — Photographs by Jeannette Klute, research photographer in the Color Technology Division of Eastman Kodak Company. *On exhibit through February 12*

FLORAL PAINTING: *A Family Heritage* — Reflecting four generations of painting. On loan by Virginia Jeffrey Smith. *On exhibit January 15 through February 12*

3rd Floor — **THE MUSEUM'S FIFTY YEARS OF COMMUNITY SERVICE** — Featuring collections, researches, exhibits and educational programs — 1912 - 1962.

EYE GLASS COLLECTION — Dating from 1700 - 1950.

1963 — JANUARY — CALENDAR

1 Tuesday **NEW YEAR'S DAY — MUSEUM CLOSED**

2 Wednes. Genesee Cat Fanciers Club—8 p.m.

3 Thursday Rochester Academy of Science—Mineral—8 p.m.
Rochester Dahlia Society—8 p.m. Rochester Cage Bird Club—8 p.m.
Junior Stamp Club—7:30 p.m.

4 Friday Rochester Academy of Science—Astronomy—8 p.m.
Rochester Amateur Radio Ass'n—8 p.m.

5 Saturday **REGISTRATION for Junior Club Program — 8:45 to 11:45 a.m.**

6 Sunday **FILM PROGRAM 2:30 and 3:30 p.m. — MELODY OF HINDUSTAN, THE FLAMING SKY**

Tuesday Rochester Hobby Council—8 p.m. Rochester Numismatic Ass'n—8 p.m.
Rochester Academy of Science—Botany—8 p.m.

9 Wednes. Rochester Academy of Science—Ornithology—8 p.m.

10 Thursday Rochester Philatelic Ass'n—8 p.m.

11 Friday Morgan Chapter, N.Y.S.A.A.—8 p.m.
Rochester Amateur Radio Code Class—8 p.m.
Burroughs Audubon Nature Club—8 p.m.

12 Saturday **TREASURE CHEST OF SCIENCE YOUTH PROGRAM — 10:30 a.m.**
WINDOWS ON SOUTH AMERICA by Geraldine McMullen

13 Sunday **FILM PROGRAM 2:30 and 3:30 p.m. — NEW LIVES FOR OLD, SPAIN: The Land and The People, BENJAMIN FRANKLIN**

15 Tuesday Rochester Button Club—1 p.m.
Rochester Rose Society—8 p.m. Optical Society of America—8 p.m.

16 Wednes. Rochester Print Club—8 p.m.
Monroe County Hooked Rug Guild—10 a.m. Genesee Weavers—8 p.m.
ILLUSTRATED LECTURE 8:15 p.m. — 3000 YEARS UNDER THE SEA
by Stanton A. Waterman - Worlds of Science Adult Series, Rochester Museum Ass'n

17 Thursday Rochester Bonsai Society—8 p.m. Junior Stamp Club—7:30 p.m.
Genesee Valley Gladiolus Society—8 p.m.

19 Saturday Genesee Valley Antique Car Society—8 p.m.
Rochester Amateur Radio Code Class—8 p.m.
Jr. Numismatic Club—7:30 p.m.

20 Sunday **FILM PROGRAM 2:30 and 3:30 p.m. — ALPINE VILLAGE, SKATING FANTASY**

22 Tuesday Rochester Antiquarian League—8 p.m.
Rochester Numismatic Ass'n—8 p.m.

23 Wednes. Seneca Zoological Society—8 p.m.

24 Thursday Rochester Philatelic Ass'n—8 p.m.

25 Friday Rochester Archers—8 p.m. Rochester Amateur Radio Code Class—8 p.m.
Burroughs Audubon Nature Club—8 p.m.
Rochester Academy of Science Public Lecture — 8:15 p.m.

26 Saturday **AUDUBON SCREEN TOUR 10:30 a.m. — LITTLE KNOWN NEW JERSEY by George Regensburg** — Youth Series, Rochester Museum Ass'n

27 Sunday **FILM PROGRAM 2:30 and 3:30 p.m. — OLD ORDER AMISH, OUR LAST FULL RIGGER**

31 Thursday Genesee Valley Quilt Club—10:30 a.m.
ANNUAL MEMBERS' NIGHT, ROCHESTER MUSEUM ASSOCIATION — 8:15 p.m.
Opening of new diorama on the Flour Mill and illustrated talk by the artist, Jon Alexander, on "*The Story Behind an Historical Diorama*"

All bookings subject to change and substitution without notice

19th Century Flour Mill

ANNUAL MEMBERS' NIGHT

of the

Rochester Museum Association

Thursday, January 31, 8:15 p.m.

Preview . . .

Opening of FLOUR MILL DIORAMA

Illustrated talk by the artist

Jon Alexander

"The Story Behind an Historical Diorama"