THE ROCHESTER STORY [of the Manhattan project]

Prepared by Dr. Andrew H. Dowdy III [1945]

EARLY HISTORY

In March 1943, President Valentine summoned Dr. Stafford L. Warren to a luncheon conference for an undisclosed purpose. There Dr. Warren met Major General Leslie R. Groves and Colonel J. C. Marshall (now Brig. General) of the Manhattan Engineer District, and as a result of this meeting, Dr. Warren was appointed a Consultant to the Manhattan Engineer District on April 5, 1943. This appointment was later changed to Chief of the Medical Section.

At this meeting, it was decided that Dr. Warren would be responsible for the medical care and protection against health hazards of all the individuals who were to be working for the Manhattan Engineer District, whose secret goal was the development and production of the atomic bomb. The choice was an appropriate one, since Dr. Warren's research and published findings had all been in the general field of the effects on the human body of all types of radiation. Since 1925 he had been chief of the Department of Radiology of the University of Rochester School of Medicine and Dentistry and the Strong Memorial Hospital.

The two initial problems which faced Dr. Warren were: (1) to outline in detail a medical program for the Manhattan Engineer District and (2) to design and erect a building at Rochester in which could be organized a research group to investigate heretofore unexplored fields in medical research on the effects of radiation and other problems relating to the development and production of the atomic bomb.

BUILDING, EQUIPPING, AND STAFFING THE "MEDICAL SCHOOL ANNEX" AT ROCHESTER

The first plans for the building were drawn in May, 1943 by Mr. Leonard Haussmann, of [illegible] and Waanderp. Urgency demanded that the

building be ready for occupancy on September 1, 1943. The design required flexibility both as to the number of personnel to be housed and the type of work to be carried out.

Under the direction of Dr. Warren, the University of Rochester had recently (January, 1943) completed on Elmwood Avenue a two-story building for a new Million Volt X-ray machine which was purchased by Rochester industries to discover by means of X-rays defects in castings of gun mounts and other equipment being manufactured for the war effort. It was decided to utilize the presence of that building by constructing the new building adjacent to it. Ground was broken on June 2, 1943 and under the supervision of Mr. Chester Wallace, of the A. W. Hopeman & Sons Company, the new structure sprang into being and was ready for occupancy on the morning of September 1, 1943.

During the five month period of preparation and building, "Manhattan Department" personnel increased rapidly. The original staff consisted of Dr. Stafford L. Warren, Dr. William F. Bale, Dr. Andrew H. Dowdy, Dr. Harold C. Hodge, Dr. Luville T. Steadman, Mr. Francis W. Bishop, and Miss Susan H. Glover. An accountant was soon added, then a clerk to handle clearance data for Army Intelligence, a purchasing assistant, and another secretary. For two months the office group was housed in one of the two rooms of Dr. Warren's quarters in the Medical School. Numerous conferences were held in his office, often continuing into the night. Meanwhile, in the outer room, the office force labored with unfamiliar Army procedure, employment regulations, Intelligence "screening," questions arising from the construction of the building, the budget; arranged interviews for new personnel; and in general cared for the numerous details involved in setting up the new organization. Within four months, the original small group grew to fifty or more, manyworking temporarily in offices and laboratories throughout the Medical School.

On the first of September, 1943, as planned, these new associates

consisting of guards, animal caretakers, laboratory technicians, a telephone operator, office workers and research staff, took possession of the new building, in which electricians, masons and carpenters were hastening to give the finishing touches. Furniture had been delivered but not placed, and some rooms and corridors still bore traces of construction dust, so the entire force, most of whom were meeting for the first time, took up brooms and dust cloths and cleaned, moved furniture and got reasonably well settled that first day. Many of the lines of the telephone switchboard had not been installed and the new operator placed the first calls while telephone men worked around her with cord and wire, completing the board. Gradually the construction men withdrew, the "Manhattan Department" established itself, and the new Medical School Annex was "open for business."

This building now houses 350 persons.

At the time the Manhattan Department at Rochester was created, most of the city's industries were well advanced in war work. The labor market for both trained and untrained help was therefore greatly depleted, and the problem of finding a sufficient number of personnel was a serious one. Nevertheless, a capable staff was recruited from many sources and localities: from universities, including the University of Rochester, from industry; from Rochester and surrounding communities, as well as from many states in the Union (viz., New York, Missouri, Minnesota, Tennessee, Pennsylvania, New Jersey, Wisconsin, New Mexico, Virginia, New Hampshire, Vermont, Illinois, Maine, Iowa, Oregon, Texas, Michigan, Indiana, Massachusetts, Florida, Washington, Connecticut, North Carolina, Alabama, Kentucky, West Virginia, Montana, California, Ohio, Georgia, and Nebraska.) In addition, many persons employed had been born in Canada, England, Scotland, Russia, Hungary, Denmark, Switzerland, China, and Germany. All of these individuals had to be carefully investigated, of course, to be certain that they were loyal American citizens, that they were discreet, and that they could be depended upon to keep secret work which contributed toward the development and production of the atomic bomb. Due to the shortage of trained personnel in some fields, however, certain

highly skilled and specialist Army personnel were assigned to participate in the Rochester program and they took an active part in planning and carrying out certain phases of the research.

Along with building and hiring, another problem of primary importance was to find the necessary scientific equipment, since the new Medical School Annex was to house numerous laboratories, all requiring precision instruments which were difficult to obtain. Part of this equipment was loaned by the Medical School and by Rochester industries. A considerable portion of it was transferred from Dr. Warren's peace-time laboratory. The remainder was purchased after much searching and often only with a high priority rating. First to be completed was the Hematology Laboratory, set up to "count" the red and white cells and the hemoglobin of the blood. This laboratory now employs 25 technicians, each doing 8 counts per day, or a total daily output of 200 counts, 6 days per week, or some 60,000 counts per year.

PURPOSE OF THE ROCHESTER PROJECT

The program of the research to be carried out at Rochester was four-fold:

(1) to analyze data of pre-employment physical examinations and of frequent re-examinations of personnel employed by the many atomic bomb plants all over the country, wherever those personnel were exposed to possible occupational hazards.

(2) to advise these plants how to protect their personnel from exposure to radiation by (a) determining "tolerance standards" for doses of radiation; (b) developing instruments to measure the exposure which these workers received; (c) determining by measurement which areas in the plants showed the greatest intensity of radiation; (d) determining the amount of contamination of workers' clothing with radioactive materials, and (e) advising what precautions should be taken to safeguard the workers.

(3) to establish safeguards to eliminate the exposure of personnel to uranium dusts.

(4) to investigate, by research, the effects of exposure to radiation when received directly.

All this work was done in coöperation with officers from the Industrial Division of the Medical Section of the Manhattan District, who travelled to the plants and to the research project at Rochester, thus keeping both groups, industrial and research, in touch with each other's work. Major John Ferry was in charge of this group and both Captain Joe W. Howland and Captain Fred Bryan, on leave from the staff of the Strong Memorial Hospital, were part of this liaison group.

The work of the Rochester Project was coördinated with that of other university laboratories (Chicago, California, and Columbia) which were also working under the Manhattan Engineer District on special problems of their own.

The work of the Rochester group when combined with that of the other university groups (Chicago: Dr. R. Stone; California: Dr. J. Hamilton; Columbia: Dr. G. Failla, etc.), was responsible for the successful operation of the Manhattan District Program without the injury by any of the new and peculiar hazards of a single employee among the thousands employed in the plants.

Concurrent with Dr. Warren's problem of creating the research project at Rochester was his responsibility for the health of the thousands of employees going to Oak Ridge, Tennessee and to other atomic bomb plants. From cities throughout the country, including Rochester, he and his staff recruited doctors and nurses for the hospital at Oak Ridge. As the Medical Section grew and Dr. Warren's responsibilities to plant personnel increased, it became necessary for him to move his office to Oak Ridge which had become by this time the main headquarters of the Manhattan Engineer District under Colonel Kenneth D. Nichols, District Engineer. On November 2, 1943, Dr. Warren was commissioned a Colonel in the Army Medical Corps and left Rochester to be stationed at Oak Ridge, Tennessee, as Chief of the Medical Section of the Manhattan Engineer District.

ADMINISTRATION OF THE ROCHESTER PROJECT

The responsibility of administering the Manhattan Project at Rochester was entrusted to Dr. Andrew H. Dowdy, Associate Professor of Radiology at the University of Rochester School of Medicine and Dentistry. Under his direction fell all aspects of the research program at Rochester, as well as the administration of such general services to the Project as Employment, Army Intelligence clearance and security, Accounting, Purchasing, a Project Library, Photographic facilities, Project Health, and Building maintenance. In both these responsibilities he was assisted by Mr. Morey J. Wantman, Assistant Professor of Education, University of Rochester. The administrative services mentioned were under the direct responsibility of Miss Susan H. Glover, Mr. William E. Weller, Jr., Mrs. Delva Bryan and Mr. Leo Krejci, Miss Wilma Kujawski, Dr. George M. Suter, Miss Virginia Shannon and Mrs. Thelma K. Sprague, and Mr. Norman Oakes.

THE RESEARCH PROGRAM

The research project was organized by Divisions, each division being responsible for a different aspect of the program. Of the ten Division Heads, eight were formerly associated with the University of Rochester. These Division Heads were in constant contact with Lt. Col. Hymer Friedell who was responsible for correlating the Rochester work with that in the other university laboratories.

I. DIVISION OF SPECIAL PROBLEMS: Dr. William F. Bale, Associate in Radiology, The University of Rochester School of Medicine and Dentistry

The Division of Special Problems was concerned primarily with devising and developing electronic instruments to measure the amount of radiation exposure in plants engaged on atomic bomb work. The members of this Division worked with the Eastman Kodak Company and other Rochester industries to obtain materials and parts with which to build these instruments.

Much has appeared in the newspapers about the measurements which were made at Santa Fe and later at Hiroshimo and Nagasaki, to discover if radioactivity were present in the ground following the dropping of atomic bombs. Some of the instruments used were designed and made at the Rochester Project. The Division of Special Problems sent personnel and instruments by air to accompany Major General Farrell and his group to Japan.

This Division also worked in daily contact with the many industrial plants all over the country who were working for the Manhattan Engineer District, shipping to these plants and receiving from them "film badges" and "breath samples" from their employees. By measuring the amount of radiation exposure, as indicated by the density of the films, or by the degree of saturation of the samples taken from workers' breath, the Rochester group was able to assure the plants that their employees were not working under undue hazards. In addition, the researchers studied the indirect effects of radiation by discovering how much, if any, was being "scattered" throughout the plant. This was accomplished by having workers wear, on their clothing, "dental film" obtained through Mr. Rex Wilsey of the Eastman Kodak Company. The films were then developed and if they remained clear, no radiation had reached the individual. If the film was clouded, some radiation had reached the individual. This information aided plant managers in deciding when and where employees needed to wear lead rubber gloves, lead rubber aprons, and other protective devices against radiation.

Furthermore, instruments were developed by Dr. Bale's group to "prospect" for radium and uranium which occur together in nature. Still other instruments developed at Rochester were used in the separating process to make sure that no valuable radium or other radioactive substances were lost.

(I. Div. of Special Problems, cont.)
A. Physics Section: Dr. Gerhard Dessauer, Assistant Professor of Physics, University of Rochester

In addition to the Million Volt and other X-ray machines and the ultra-violet spectrograph, the University of Rochester's Cyclotron was employed on the work of the Project. Housed in the basement of the Bausch and Lomb Building on the River Campus, suitable precautions were taken so that only Manhattan personnel had access to the instrument while it was being used for Project work. An extensive program, allied with that of the Division of Special Problems, was undertaken by a group headed by Dr. Gerhard Dessauer, Assistant Professor of Physics. Among other things, the cyclotron was used by the Division to generate neutrons for the calibration of ionization chambers, and instruments were developed for the detection and measurement of neutrons and gamma radiation.

It is fitting that Dr. Dessauer should have had a part in the atomic bomb project. Born and educated in Germany, he is the son of a renowned radiologist who, at the time of the Nazis' rise to power, was a member of the political party which had tried to establish a democratic government. Because of their anti-Nazi sympathies, the Dessauer home was razed, Gerhard's mother and father fled to Switzerland, while he came to this country. He has been associated with the University of Rochester since 1939 and with the Manhattan Project since the fall of 1943.

II. DIVISION OF PHARMACOLOGY: Dr. Harold C. Hodge, Associate Professor of Biochemistry and Pharmacology, University of Rochester School of Medicine and Dentistry

This large Division was given the task of determining the toxicology and pharmacology of uranium compounds and of establishing criteria for tolerance levels. It was divided into five major sections:

A. Section on Inhalation: Dr. Herbert E. Stokinger, Research Associate in Bacteriology, University of Rochester School of Medicine and Dentistry

This group built large "chambers" into which were blown known amounts of various radioactive dusts. By placing different species of animals in these chambers, tests could be made to determine how much dust an animal could inhale safely. The Engineering Section worked in close coöperation with this group since the chambers presented many difficult engineering problems, and many instruments had to be devised to blow the dust into the chambers in known concentrations. (This type of study is commonly carried out by large industrial concerns, and comes under the classification of experimental industrial hygiene.) The chambers were similar to those used at the National Institute of Health at Bethesda and at the Federal Government's Bureau of Mines at Pittsburgh.

B. Section on Pharmacology: Dr. Frances L. Haven, Associate in Biochemistry, University of Rochester School of Medicine and Dentistry

The research staff of this group devised methods of analyzing the urine of employees in the bomb plants to determine the extent of exposure. Their methods enabled them to detect as little as 1/5,000,000,000 of a gram of uranium in the urine. The 25,000 rats, bred for this laboratory in the

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Dr. Voegtlin organized and was for many years director of the National Cancer Institute at Bethesda, Maryland. In October, 1943, Colonel Warren appointed him as Chief Consultant to the Medical Section of the Manhattan Engineer District and, at the same time, Dr. Voegtlin became Chief Toxicologist to the Pharmacology program of the Rochester group. His long experience in Pharmacology dealing especially with the public health and industrial health aspects was acutely needed in facing the problems of safeguarding the health of laboratory scientists and industrial personnel of the Manhattan Project.

Project's rat colony, were fed various uranium compounds used in the manufacture of the atomic bomb. Tissues of these animals were studied to detect possible changes.

This group also studied the relative merits of different methods and agents to be used in washing the work clothes of employees in the plants in order to find a satisfactory laundry process which would eliminate all residue of radioactive material.

C. Analytical Chemistry Section: Dr. John F. Flagg, Assistant Professor of Chemistry, University of Rochester

The Smyth Report has discussed the recovery of processed uranium compounds from the separation units. The Analytical Chemistry laboratory at Rochester devised methods for recovering small amounts of uranium from solutions containing large amounts of contaminating substances, introduced so when the separation units were cleaned out. Since uranium is very valuable it was important to recover as little as one ten-millionth of an ounce from each gallon of solution used to clean out the separation units.

Uranium and radium are always found together in nature. Hence when an ore is processed for uranium, care must be taken to avoid loss of the valuable radium. This laboratory studied methods for making rapid and complete separation of the radium from the uranium. Methods were also developed for determining the amounts of radium present in ores and other materials containing as little as a few billionths of an ounce of radium.

D. Mechanism Section: Dr. Alexander Dounce, Instructor in Biochemistry, University of Rochester School of Medicine and Dentistry

This group developed methods for the detection of the earliest signs of uranium toxicity. The most modern analytical tools (such as the polarigraph) were used on these problems.

E. Engineering Section: Captain Geoffrey Goring and Sgt. Neil Murphy, Army, Corps of Engineers

This group, composed of Army Engineers, designed many unique types of dust chambers and was responsible for the operation, maintenance, and safety of these chambers. Safety features comparable to those used in industrial plants were provided the operators of the chambers on the Rochester Project.

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Various other problems were of interest to the Division of Pharmacology: analyses of teeth to detect radiation effects; analysis of drinking water near plant sites to discover the content, if any, of radioactive material; effects of different diets upon animals exposed to the inhalation of uranium dusts.

III. RADIOLOGY DIVISION: Dr. Robert D. Boche (on leave of absence from the University of Pennsylvania, who was engaged during peace-time in investigations on cell physiology and the mechanism of radiation effects. Before coming to Rochester, he also worked on medical research for the Office of Scientific Research and Development.

By using a General Electric Million Volt X-ray machine and other radiation therapy machines built by the Picker X-ray Corporation, various species of animals were given known amounts of daily radiation over long periods of time to determine what physiological changes occurred in the body as a result of exposure to varying amounts of radiation. The purpose of this study was to enable the investigators to make an estimate of the amount of radiation exposure which could be safely tolerated by human beings.

In addition, series of animals were exposed to single large doses of radiation to determine what amounts of acute radiation could be tolerated by a population in the events of accident or enemy action.

A program similar to that for high voltage x-radiation was carried out by using neutron radiation produced by a cyclotron.

A large series of experiments was carried out to determine the most efficient means of combatting the physiological effects of chronic and acute radiation. Very extensive data were obtained on animals with regard to chemical changes taking place in the blood, tissue, and urine.

A series of physiological investigations was carried out, designed to throw light on the mechanism of intoxication observed after acute radiation exposure, and these results may have an important bearing upon the treatment of shock encountered in ordinary medical practice.

It was also important to learn what effect, if any, the handling of radioactive material had upon the skin. Mr. Francis W. Bishop, Associate in Radiology, the University of Rochester School of Medicine and Dentistry, conducted a study of the effects on the skin of very soft x-radiation and beta radiation from radioactive sources. Dr. Roger Harvey, Assistant Professor of

Radiology, the University of Rochester School of Medicine and Dentistry, worked out a method of taking finger impressions in wax. As a background for his data he obtained such impressions first from doctors and dentists throughout the country who had been handling radium or operating x-ray and therapy machines during various years of practice. As a result of this study, and by obtaining finger impressions on employees handling radioactive materials in bomb plants, he was able to discover when, if at all, these employees were beginning to show changes in the skin of their hands as a result of contact with such materials.

Finally, experiments were carried out which involved irradiating the fingers of monkeys to determine the relation between dosage and degree of change and the extent to which these changes might be detected before damage occurred.

IV. GENETICS DIVISION: Dr. Donald R. Charles, Assistant Professor of Zoölogy, University of Rochester

Dr. Curt Stern, Professor of Experimental Zoölogy, University of Rochester (Consultant)

and Dr. Warren P. Spencer, Professor of Biology, Wooster College (on leave), and Research Associate in Zoölogy, University of Rochester

Studies were undertaken by this Division to investigate what effects, if any, were produced on offspring whose parents had been exposed to radiation.

Dr. Charles' laboratory bred and studied 277,400 mice and the laboratory of Drs. Stern and Spencer studied some 50 million fruit-flies, Drosophila melanogaster.

V. HEMATOLOGY: Dr. George M. Suter, Instructor in Medicine and Assistant Physician, The University of Rochester School of Medicine and Dentistry and Strong Memorial Hospital and (formerly) Capt. Fred A. Bryan, Army Medical Corps, also of the staff of the Medical School and Hospital (on leave).

In conjunction with the work done by the Divisions of Pharmacology, Radiology, and Special Problems, the Hematology Division studied the effects of analyses on the blood which had to be done on large groups of animals, and a laboratory was set up for "mass production." This laboratory carried out over 100,000 complete analyses, which included a study of red and white blood cells and other important formed elements of the blood. The object of these studies was to establish safety levels for workers in the plants.

Periodic blood counts were also taken of the personnel working on the Rochester Project.

VI. PATHOLOGY: Captain Roger G. Metcalf, Army Medical Corps

Representative experimental animals of various species were autopsied and their organs were examined grossly and microscopically. From these findings an estimation was made of the type and extent of the injury to body tissues as a result of various methods of exposure. This work was correlated with other experimental data as a means of setting safe levels of industrial exposure.

VII. INSTRUMENTS: Mr. Francis W. Bishop, Associate in Radiology, University of Rochester School of Medicine and Dentistry and Mr. Norman G. Oakes

Many of the divisions required special instruments for a specific purpose which either were unobtainable or had not yet been designed. The Instrument Division aided in the design and construction of such instruments and apparatus.

VIII. SPECTROCHEMISTRY: Dr. Luville T. Steadman, Associate in Radiology, The University of Rochester School of Medicine and Dentistry

This Division worked in close coöperation with the Pharmacology Division. Through the use of an ultra-violet spectrograph and other specially designed equipment, Dr. Steadman, with the assistance of Dr. Herbert E. Thompson, Jr., and others, determined to what extent, if any, heavy metals were appearing in the urine of employees in the bomb plants, or in the tissues of experimental animals. Prior to the war, Dr. Steadman had used the ultra-violet spectrograph at the Medical School to determine evidence of lead poisoning, arsenic poisoning, and other pathological conditions sometimes present in industrial workers as a result of long and continued handling of metals.

IX. VETERINARY: Dr. Donn E. Bacon, Veterinarian
and Dr. L. J. Desson, Veterinarian, Consultant

It is essential, of course, that laboratory animals be properly cared for with respect to housing, cleanliness, feeding and general state of health, both for the well-being of the animals themselves and to prevent the introduction of extraneous factors which might affect the validity of the experimental results. Dr. Donn E. Bacon, Veterinarian, was responsible for maintaining high standards of health and general care in the Project's animal colonies. Also available, on call as a consultant, was Dr. L. J. Desson, local Veterinarian.

X. STATISTICS: Mr. Morey J. Wantman, Assistant Professor of Education, University of Rochester, and Mr. David V. Tiedeman, formerly Head of the Test Construction Department, College Entrance Examination Board

Experimental data collected by the various Divisions were here subjected to statistical analysis. This insured uniformity of treatment of all data and facilitated the coördination of results in determining the effects of irradiation and uranium on several species of animals. In addition, this

Division was able to evaluate the accuracy of some of the indicators used in the experimental procedures. More than 400 different groups of data were studied.

With the aid of International Business Machines' electrical tabulating equipment, data on case histories of employees working in atomic bomb plants were periodically examined to insure against health hazards.

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The success of the work throughout the country, depended almost entirely upon coöperation. Many scientists participated, many industries were involved, many University facilities were being used, but without the inter-relationship of all of those in the Manhattan Engineer District program, on a coöperative basis, the atomic bomb project would undoubtedly have failed. So too, within the organization at Rochester, the production of worth while contributions to the enterprise depended upon the 'teamwork' of the various divisions. It was the combination of radiologists, physicians, chemists, biochemists, physicists, biologists, geneticists, statisticians, engineers, instrument makers, specialist Army personnel, technicians and secretaries - all planning and working together - that resulted in successful accomplishment. This joint effort may be illustrated by the way in which a single experiment or group of experiments was planned and carried out. A 'planning conference' was held, attended by a representative of each division which was to participate in the work. An idea was outlined and discussed, then the group decided the course of the experiment: what work was to be done, the number of personnel in various divisions to be assigned, the schedule to be followed. In this way the resources available were used to best advantage and as a result the industrial plants received answers to their problems with a minimum of delay.

AREA ENGINEER

The Manhattan Engineer District assigned a young engineer, Lt. Ray C. Armstrong, formerly attached to the Engineer District at Syracuse, as Area Engineer. He supervised the design and construction of the building. When, early in 1944, it was found that the building was too small, the 'grey tail' was added, again under his general guidance in coöperation with the same architect and builder. After some fourteen months of service at Rochester, Lt. Armstrong was transferred to Oak Ridge.

He was replaced at Rochester by Major Samuel S. Baxter, who before the war had been associated with the engineering department and public works department of the City of Philadelphia. In the Army Engineer Corps, Major Baxter was the first town manager of Oak Ridge, Tennessee, and later supervised the design of a large portion of the town.

It was also the responsibility of the Area Engineer to see that the program, as given to the University group, was conducted in line with various governmental regulations and that the work was carried out on schedule.

There is an amusing story of an incident which occurred at the height of the publicity on the dropping of the atomic bombs. When the secret was first released, the newspapers had attempted to interview Major Baxter, the Area Engineer of the Rochester Project. However, he was under strict orders to divulge neither the part played by Rochester nor his own part in it, and could tell the papers nothing. One day Major Baxter went shopping downtown. As he stood before a store window, a young woman tapped him on the arm and said, "Major, I represent the DEMOCRAT AND CHRONICLE. Have you any opinion you would like to express about the atomic bomb?" Little did the reporter realize whom she had questioned when the Major stammered that he had no opinion and hastened into the store.

MISCELLANEOUS

Several species of animals were studied: 200 monkeys, 675 dogs, 20,000 rats, 277,400 mice, 100 hamsters, and 1200 rabbits. Much care was taken to assure proper housing and feeding, cleanliness, and high standards of health.

Despite such concern for their well-being, occasionally the monkeys, true to their nature, became curious about the outside world, and one fall day one of them succeeded in escaping from his roof-top home. The chase, which ranged from the Power House roof, to Genesee Valley Park, in and out of residential sections, to the River Campus where he even attended a football game, caused a good deal of merriment and conjecture in the newspapers. He was finally lured by an apple into an ingenious box 'trap' whose door closed when he investigated the 'bait.' Upon his return home, it was found that during the two weeks in which he was eating where and what he chose, he had gained some two pounds, a considerable weight gain for a monkey. Contrary to popular belief, this monkey was a healthy 'control' whose chief value to the Project lay in his ability to live a carefree life to a 'ripe old age' under conditions of ease.

Although it is rare in captivity, one of the female monkeys gave birth to a baby monkey which the Project named "Martini." Martini accompanied her mother wherever she went and protested loudly against any curious personnel who came to stare at her.