with scientific training and practical ability who could teach in secondary schools or by demonstration in the rural districts and thus get back to the country information that it really needed. Also during this period of 1910–1920 the commercial horticulturist came to the forefront. He was found with railroads, spray companies, fertilizer companies, machinery companies, marketing organizations, and the like.

Since 1920 specialization has increased, and with the passage of the Purnell Act the economist has become important, injecting into our already complex organization other demands. Industry, in its selfishness and under artificial stimulation, had turned the United States from a rural into an urban nation, and the great industrial-agricultural conflict had practically throttled farming in its various forms before a realization was attained that the power, wealth and balance of trade of this country were in reality dependent upon the products of its soil and the labor of its rural population, which had for decades been producing against an impenetrable barrier of protection, for other interests, and forced to sell in open competition on the markets of the world. Is there any wonder that since 1920 the economical production and handling of our horticultural products have become prominent in our thoughts? The horticulturist can look with pride upon the fact that of the brotherhood of agricultural subjects his was the first to realize the importance of coordinating individual effort in projecting better methods of handling farm commodities; and, out of this experience of more than a quarter of a century, there should come to him the realization that he is better able to maintain himself under stress of modern conditions than other members of the rural fraternity; even though his advice has neither been sought nor listened to in the formulation of schemes and the passage of legislation intended to control the immutable laws of economics. It is a great pity, my friends, that money is not endowed with brains as well as power.

THE GEORGE EASTMAN RESEARCH LABORATORIES FOR PHYSICS AND CHEMISTRY

By Dr. KARL T. COMPTON

PRESIDENT OF THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY

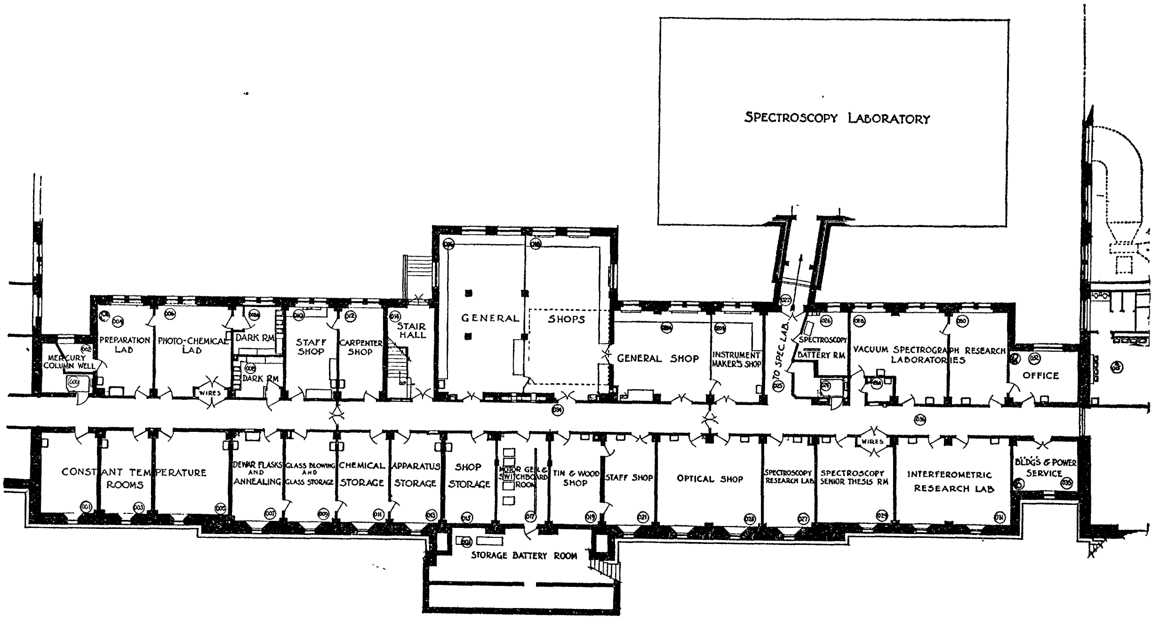
THE new research laboratories of physics and chemistry, which are now nearing completion at the Massachusetts Institute of Technology, are built in the belief that these fundamental sciences are destined to play an even more important rôle in our civilization than they have played during the past, for not only do they underlie all branches of engineering, but they are necessary to that sympathetic understanding and appreciation of modern life which is so important a part of present-day culture.

These laboratories are devoted entirely to advanced instruction and research and embody the most approved features, together with numerous new features of laboratory design. Briefly stated, these features are: rigidity and freedom from vibration; flexibility and completeness of electrical service; flexibility of internal arrangements; unusually adequate shop, lecture room and departmental library facilities; and provision for encouraging, in a cultural and artistic setting, social contacts among staff and students.

The spirit and purpose of the laboratories are typified by the three marble panels which are set into the limestone walls just above the main entrance to the laboratories. To the left, which is the chemistry side of the building, is a medallion taken from a block medal showing the head of the young scientist, Jacobus Henricus Van't Hoff, discoverer of the important principle of molecular asymmetry, which is represented on the medallion by two tetrahedra, one the reverse of the other. To the right, which is the physics side, is a medallion of Sir Isaac Newton with an inscription epitomizing his three laws of motion. Between these two panels is a third containing a Latin quotation from Vergil, which may be translated literally as follows: "Happy is he who has been able to learn the causes of things and has cast beneath his feet all fears and inexorable Fate and the roar of greedy Acheron."

GENERAL ARRANGEMENT OF THE LABORATORIES

On entering the building, which is about 300 feet long and five stories high including basement, the chemistry laboratories are found on the left, the physics laboratories on the right, and in the center of the building are found successively, going from basement up, the shops, switchboard, generator and battery rooms, main lecture room, directors' offices, class rooms, departmental library, reading room and social room. Connecting with the physics side of the building is the special new spectroscopy laboratory of unique design for convenience, freedom from vibration and temperature control. This spectroscopy laboratory, which is now in use, is to be described separately in another article.



BASEMENT FLOOR PLAN
SCALE IN FEET

On the chemistry side, the basement and the first and second floors are assigned to physical chemistry, the third and part of the fourth floors to organic chemistry, and the remainder of the fourth floor to inorganic chemistry.

On the physics side, the basement is assigned to spectroscopy, supplementing the work in the main spectroscopy laboratory. The first and second floors are assigned to research in electronics and gaseous conduction. The third floor, which contains also the library, reading room and social room, is divided into a series of large and small offices for research in theoretical problems. The fourth floor is planned for work in x-rays, dielectric and other properties of matter, and contains a room with suitable communication through the roof for optical testing and work with the spectroheliograph which has been presented by an alumnus, Dr. George Ellery Hale, honorary director of the Mount Wilson Observatory.

The building connects at its two ends with other units of the main educational plant of the Institute and is in close proximity to the departments of electrical engineering and mining and metallurgy on the physics side, and to the departments of mathematics and chemical engineering on the chemistry side, and at the same time is closely adjacent to the regions in which the undergraduate instruction in physics and chemistry is carried on.

LABORATORY SERVICES AND SPECIAL FEATURES

Entrance Lobby and Corridors: The building is entered through carved teak doors into a large lobby whose walls are covered with Italian travertine. To the right and left are to be placed semi-permanent exhibits relating to physics and chemistry, and statues of two prominent scientists will flank the few steps rising from the entrance lobby to the main corridor. This corridor, like those on the other floors, is divided into three sections by fire doors which may be closed in emergency. The central section on the first floor is also finished in Italian travertine and has a false ceiling which conceals the overhead piping. In the other parts of the corridors the overhead piping is exposed but is so high as not to be objectionable.

Lecture Hall: Facing the entrance lobby is the main lecture room, with 195 seats which are raised, stepping up toward the back of the room in such a way as to provide space for an ample coat room beneath the rear seats and platform. The room is finished in travertine dado at the lower level, with California stucco above, and the ceiling is acoustically treated. In the rear is a completely equipped projection room for a double sound motion-picture installation and a stereopticon with automatic slide control, operated from the lecture table. Blackboards extend clear across the front wall with a sliding central section which is electrically operated. Above the blackboards are a loud-speaker and large multirange voltmeters and ammeters. Beneath the central blackboard is a very complete switchboard furnishing a great variety of electrical services to the lecture table, the electrical meters and the projection room.

The main lecture table is by far the most expensive and complicated piece of furniture in the building. About fifteen feet long, it has a sink at each end with gas, distilled water, compressed air, cold water, and steam outlets. From this table and the panel under the blackboard run controls for the automatic window shades, phone, signal and operating wires to the picture booth, lights and dimmer control, demonstration electric meters, timer, and sets of rheostats for regulating currents through the entire range up to 2,250 amperes. All electrical service available anywhere in the building is wired to the lecture table.

This unusually complete lecture room equipment has been designed with the assistance of Professor P. Scherrer, of the University of Zurich, who is internationally noted for the excellence of his lecture demonstrations and equipment.

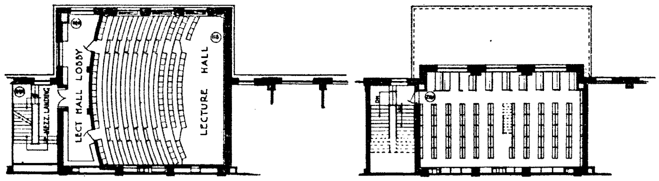
Shops: Realizing that the limitations of accomplishment in experimental research are often set by limitations of shop facilities, no effort has been spared to make the equipment and arrangement of the shops as nearly ideal as possible. The physics glass blowers' shop is located on the second floor, adjacent to the research stock room and close to one of the elevators. The remaining shops are located in the basement.

The main machine shops are located directly below the lecture hall. The chemistry shop occupies the left and the physics shop the right-hand side of this space, and the two are divided by an open iron grill. This separation into two shops is made in order to fix the respective responsibilities of the mechanicians attached to the two departments, but unnecessary expense due to duplication of equipment is avoided by the close communication between the two shops which enables machine tools of a type which are needed only occasionally to be shared by the two groups of workmen. The physics shop also extends into the adjacent rooms and includes an instrument maker's shop provided with small tools of extreme precision. Across the hall is a staff shop, an optical shop and a "tin and wood shop," which really means a shop for miscellaneous work of a type which is undesirable in the main shops. Similarly, on the chemistry side is a staff shop, carpenter shop and glass blowing room, together with a room for storage of shop materials.

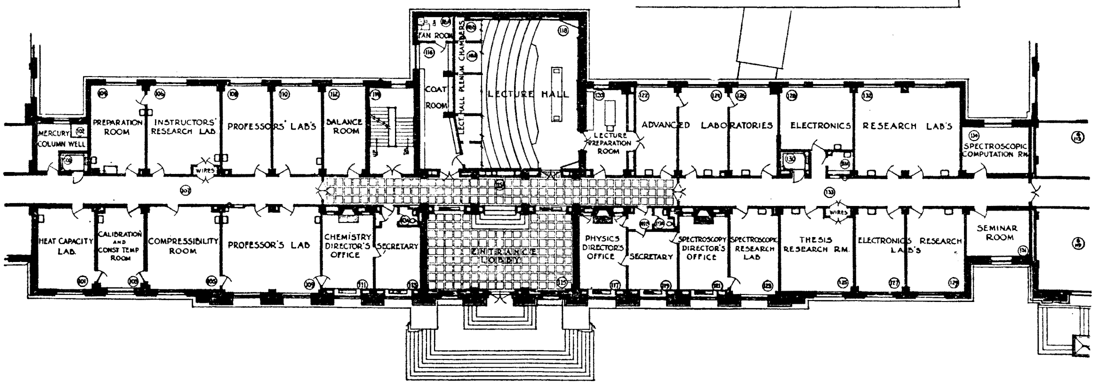
A very interesting feature of these shops is the provision which has been made to prevent the generation of vibrations and their transmission throughout the building. All of the smaller machine tools are mounted upon anti-vibration bases of the most approved type. For the larger machine tools, notably the large miller, shaper and grinder, a new protection against vibration has been installed with the assistance of Dr. Gerke, of the U. S. Rubber Company. Under these machines a pit of a depth of about two feet was left in the 3½ ft. reenforced concrete mat which underlies the entire building. On the bottom of this pit is laid a one-inch layer of the finest quality of sponge rubber of such a type as to be compressed to about nine-tenths of its original thickness under the weight which is to be loaded on it. This rubber is covered with a waterproof layer of transite board, on which is then put a solid reenforced concrete block, rising to the level of the surrounding floor. The sides of this block are separated from the surrounding floor by a similar layer of sponge rubber. The machine tool is then mounted on this sixty-ton concrete block with the aid of the ordinary anti-vibration protection. Thus the machine and its concrete base float on the sponge rubber. The theory of this installation is as follows: The mass of the machine tool and the elastic properties of the anti-vibration base, by which it is attached to the concrete, form such a combination as to transmit only a certain natural frequency of vibration into the block. The combination of the mass of the block and the elastic properties of the rubber on which it floats are such as to give this system a natural frequency about ten times smaller than that which is being fed into the concrete block. The system therefore acts as a double by-pass which effectually prevents the transmission of any vibrations to the floor of the building. Each of the three most important heavy machine tools is mounted in this way.

Offices: The offices of the director of the chemical laboratory and the two directors of the physics laboratory are located on either side of the entrance lobby, and every attempt has been made to make them attractive as well as convenient in order that they may promote the feeling that the pursuit of science has its cultural and human aspects as well as those aspects of efficiency and accomplishment which are the chief impressions gained from the shops and laboratories.

Through the generosity of Mrs. F. Jewett Moore, who has provided a fund for making the study of chemistry and its surroundings more interesting and attractive, the office of the director of chemistry has been given special architectural treatment. The walls of this office are paneled ten feet high in oak, with a rough textured tinted plaster above. The ceiling is arched and paneled in the English manner with raised mouldings. The large window is broken up with moulded mullions and transoms into small units set with leaded glass containing Lallique plaques. Opposite the window is a fireplace trimmed with limestone, and over it is the inscription: "Felix qui potuit



LECTURE HALL MEZZANINE PLAN BOOK STACK MEZZANINE PLAN



FIRST FLOOR PLAN
SCALE IN FEET

rerum cognoscere causas." Above the mantel there is space for a painting, and on either side there are built-in bookcases. The floor is of oak, laid in parquetry design. The complete furnishings of the room are being given the attention and thought required to secure in this room, through its harmonious blend of line, color and arrangements, an atmosphere suggestive of the high aims and purposes to which the new home for science is dedicated.

On one side of the director's office is the departmental secretary's office, while on the other side is the director's laboratory.

The physics offices of administration are more simple, yet comfortable, dignified and interesting in design. They are finished in California stucco of a warm color, with raised wood mouldings forming large panels. The cornice and chair rail are of wood, painted to match the buff walls. Each room has a fireplace at the end opposite the window, and the fireplace is flanked on both sides with built-in bookcases. The floors are of wood, and the ceilings are acoustically treated with acousticelotex.

The remaining offices have the ordinary inside finish of the rest of the building. Of particular interest is the group of offices adjoining the departmental library, reading room and social room on the third floor. On the front of the building are larger offices, each provided with a built-in blackboard so that they can be used on occasion by students for conferences and seminars, while to the rear of the building are a group of small offices for graduate students and research fellows who are working on theoretical problems.

On the chemistry side of the building are several professors' offices with their special laboratories adjoining, including especially one such suite especially designed for guest professors.

Physics-Chemistry-Mathematics Departmental Library: Immediately above the lecture hall is a book stack-room with floors on two levels, one being the level of the third floor and the other the level of a mezzanine floor below. These two floors of stacks can accommodate approximately 40,000 volumes. The two floors of this stack-room also contain a series of cubicles beside the windows, in which are seats and desks where men who desire continual convenient access to the stacks may carry on their work.

Opening into the book stacks is a large reading room with a rubber tile floor, tinted green stucco walls, an acoustically treated ceiling, comfortable furniture, and reference books and current periodicals conveniently located around the walls. The effort has been made to make this room an attractive working space for the study of research problems. Beside the entrance to the reading room is the library file and the desk of the branch librarian, who is in charge of this library and is at the same time a member of the staff of the central library of the Institute. This branch library is designed essentially as a "working" library rather than as a depository, and in it will be found only such books, periodicals and treatises as are of importance in connection with research work.

Forris Jewett Moore Room: Still further to promote cooperation and intercourse among the men who will be working on their special problems in this building, a social room of unusual attractiveness and convenience has been located just opposite the library. This room, whose equipment and furnishing has been made possible through the generosity of Mrs. Forris Jewett Moore, is to be named the "Forris Jewett Moore Room" in honor of her late husband, who was professor of chemistry at the Institute from 1902 to 1925, and who was unusually interested in the human side of scientific work.

This room is furnished like a home or a club, with rugs, curtains, comfortable chairs and sofas, tables with shaded lamps, set in a background of oak paneled walls, a heavy timbered ceiling, a parquetry floor, and a carved stone fireplace. There is space on the walls for a few fine paintings, notably one of Professor Moore himself.

In addition to its customary use for reading or conversation, this room will be used on the occasions of the weekly physics colloquia, special conferences, and lectures by distinguished visiting and foreign scientists. For the social gatherings before and after such functions, as well as for the use of those who are accustomed to enjoy a few minutes away from their work in the afternoon for the purpose of recreation, thought or intercourse, a fully equipped kitchenette is provided, adjoining the social room, in which tea or other refreshments may be prepared.

Special Rooms: In addition to the rooms mentioned above, the following are suggestive of some of the facilities of the laboratory. There is a mercury column well extending the height of the building. There are two passenger elevators, one on each side of the building. Freight elevators are available in the buildings, connecting with each end of these laboratories. There is a constant temperature room for the calibration of instruments, and another group of large constant temperature rooms is provided in the basement. There are several photographic dark rooms. One room is being particularly equipped with mechanical aids for computation.

Electrical and other Services: The electrical current used in the laboratories is derived principally from five sources, all fed ultimately from the power plant of the Institute. The large transformer and motor generator sets are located in closely adjacent buildings in order to reduce vibration hazard. In the room below the steps of the main entrance are two storage batteries. One is of 240 volts subdivided into two 120 volt units, one of which acts as a ballast across the 120 volt motor generator set. The other battery is also 120 volts and is subdivided into ten 12 volt units which can be connected in any combination of series or parallel arrangement by making suitable connections on a mercury pool-in-marble switchboard. Beside the opening of the passage into the spectroscopy laboratory is still another 120 volt storage battery of very large capacity, designed particularly for use in the spectroscopy laboratory but also wired to a series of outlets on the physics side of the basement of the main laboratory. On the fourth floor of the physics side is installed a 100,000 volt stabilized direct current generator for x-ray and other uses. Finally, in order to have certain sources of current available for the exclusive use of an experimenter whose work would suffer if other people were to tap in and out of the same current source, a number of small motor generators of different types have been located in the switchboard room, all running on 3-phase, 220 volt current, and each arranged so that only a single load can be taken from it at a time. These generators provide 110 volt d. c., 110 volt 500 cycle a. c., etc.

Each research bay on the physics side is provided with 120 volt a. c. outlets at convenient positions and, in addition, is provided with a switchboard containing the following outlets:

240 volt, 3-phase a. c.
240/120 volt, 1 phase, 60 cycle a. c.
240/120 volt d. c.
700/350 volt d. c.
2 60-ampere lines running from the central distributing switchboard.
8 signal lines running throughout the laboratory.

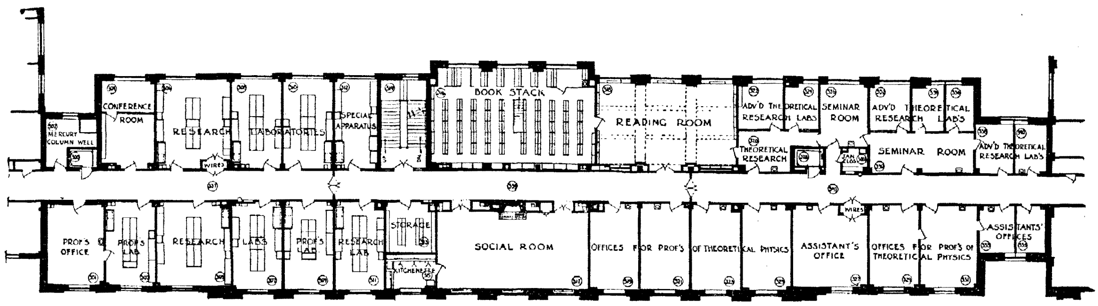
On the chemistry side each research bay is similarly equipped except for omission of the 700/350 volt line.

The main electrical control and distributing switchboard is located in the basement of the building below the entrance lobby. A separate switchboard is placed beside the special storage battery for the spectroscopy laboratory and intermediate distributing and fuse boards are located in the hallway on each floor, near the center of the physics and of the chemistry sides of the building. Altogether there are 1,100 lighting outlets, 1,400 experimental outlets and about 70 miles of wiring in the building.

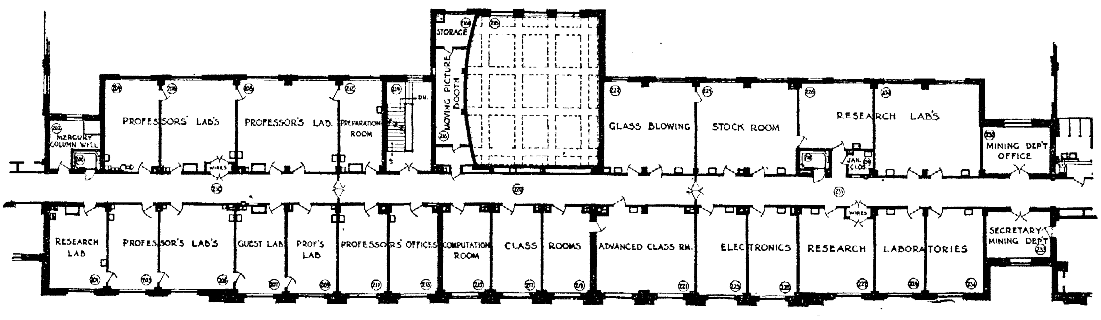
Hot and cold water, gas and compressed air are piped to all research bays, and distilled water is piped to all bays in the chemistry laboratories and to a few selected points on the physics side.

The ventilating hoods on the chemistry side are provided with individual forced draught for each room, the discharge vent being located on the roof.

Forced draught ventilation is provided in the lecture, class, library, and seminar rooms, but not in the individual offices or research rooms, which will depend upon the adjustment of casement windows and of steam radiators for temperature and ventilation control.



THIRD FLOOR PLAN



SECOND FLOOR PLAN

SCALE IN FEET

Special Equipment of the Chemical Laboratories: Except for the work in spectroscopy, which is separately provided for in the new spectroscopy laboratory, the research rooms on the physics side require no further description, since the facilities already described are adequate for the installation of all types of physical research which are now contemplated, and for which appropriate apparatus will be installed as needed. On the chemical side of the building, however, there are certain additional features of a permanent nature which deserve special mention.

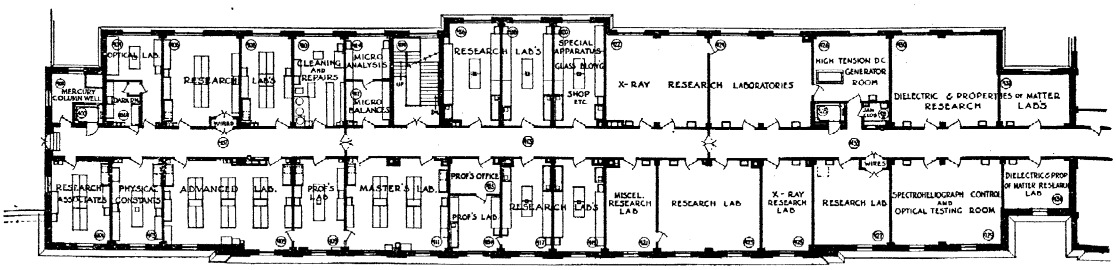
In the laboratory of physical chemistry there will be installed a 70 foot, jacketed, mercury column, provided with a special well so that precise measurements involving the application of high pressure may be carried to pressures of several thousand atmospheres.

A special constant temperature room will contain rather elaborate equipment for gas thermometry and platinum resistance thermometer standards, and will be accessible for calibration at all available temperatures of the various types of secondary thermometers used throughout the laboratory. A similar room will contain very complete equipment for the measurement of volumes and the temperature dilation of materials at atmospheric pressure. In the same room will be installed apparatus for measuring the two principal elastic constants of materials over long ranges of temperature. This same room will also contain standard cells and calibrated standards of resistance and resistance bridges to serve as standards for the measurements of energy, which are usually carried out by electrical means. All calibration and wiring diagrams will be framed and hung on the walls beside the apparatus.

A special balance room, which will be maintained at substantially constant temperature, will contain complete standard equipment for weighing masses from 5 kilograms to 5 micrograms. The standard and calibrated weights for these ranges are to be kept in cases in this room.

Various rooms devoted to investigations of gaseous and other equilibria, of van der Waals' forces, or molecular attractive and repulsive forces, of problems in photochemistry, and measurements pertaining to heat capacity, are all being especially equipped and are located so as to secure a maximum degree of coordination between these related fields of investigation.

In the space allotted to organic chemistry on the two upper floors, there is one room specially designed for optical work with spectrographs, polariscopes, refractometers, and an adjacent dark room. A second room is being equipped for the determination of physical properties, molecular weights, electrical conductivity, and volumetric analysis. A third room is being devoted to micro and semi-micro methods of



FOURTH FLOOR PLAN

analysis, and a fourth room contains a large electrical centrifuge, vacuum drying ovens, an ozonizer, autoclaves, high and low pressure hydrogenation apparatus, and a bench supplied with tools for simple mechanical work. This room also contains jacketed kettles for cleaning apparatus.

Throughout the chemical laboratories built-in desks with all necessary facilities and services have been specially designed. These will be supplemented by portable apparatus on wheels such as special vacuum pumps, storage batteries, measuring instruments, thermo-regulators, etc. Similar provision, primarily for the physics group, is being made for portable services such as high-frequency induction heaters, specially isolated portable batteries, and similar apparatus which may be mounted on rubber-wheeled trucks and taken from place to place as desired.

Special Architectural and Structural Features: Any modern laboratory must be rigid in construction, flexible and convenient in arrangements. In order to serve its purpose in an educational institution it should also be attractive and contain those intangible features which lead to better understanding of the ideals and the aims as well as the methods and particular difficulties of the various branches of the physical sciences.

In appearance this building carries out the same design as the main educational group at Massachusetts Institute of Technology. The entire front is of Indiana limestone with a granite grass course. The large windows are a combination of casements and top hung vents surrounded by fixed panes.

Since the subsoil at this location consists of fill and organic silt averaging 12 feet in thickness at the northerly end and 21 feet in thickness at the southerly end, all resting upon glacial drift of sand, and since there are traffic disturbances in the neighborhood, great pains were taken in the design and construction in order to insure a high degree of rigidity in the structure. About 2,800 piles support the building. At the northerly end these are stopped in a bed of compact gray sand, while at the southern end where the sand layer is too thin to afford support to the piles, much longer piles were used and embedded about 25 feet into the bed of clay which underlies the sand and fill.

The foundations are in general designed as separate footings but the spaces between the footings, where they occur, are filled with concrete and reenforced with rods extending into the footings, thus tieing the entire foundation together and making one huge reenforced concrete mat on which the entire structure is erected.

The main walls and the floors are of reenforced concrete. In addition to the dead loads, which are exceptionally heavy, the live loads are as follows:

Roof	50 lbs. per sq. ft.
3rd and 4th floors	75 " " " "
2nd floor	125 " " " "
1st floor	150 " " " "

All columns, girders, floor beams, longitudinal corridor beams, and floor slabs are made larger and stiffer than usual in order to increase rigidity.

Except for the solid concrete transverse partitions, which were introduced for additional stiffening, the remaining transverse partitions consist of gypsum blocks with plaster finish. These partitions can be readily drilled and can be readily knocked out or rebuilt if future uses of the building should require a change in the present location of partition walls.

The floors are of terrazzo, the ceilings of exposed concrete, and the finish is of stained birch. The door frames and window frames are of pressed metal. A pipe sleeve is provided in the floor of every bay and in the partition wall between every two adjoining rooms in order to permit the temporary drawing of wires or pipes between adjacent rooms on the same floor, or one above the other, thus facilitating types of intercommunication which have not been provided in the regular equipment of the buildings.

All horizontal piping and all fittings on the chemistry side of the building are of chemical resisting Duriron. All other piping is cast iron, except for the distilled water, which is carried in block tin pipes. Sprinklers are installed in the corridors only, since the building is entirely fireproof and the damage which might be caused by water in an experimental room is probably greater than that which could be caused by fire.

All piping, all power conduits and all the fume ducts are run exposed so that they may be easily added to, repaired, or changed. Ceiling heights are such as to render this exposure unobjectionable. The exceptions to this are in the main entrance hall in the center of the building and in the permanent lecture rooms or offices and library, in which cases the piping is concealed.

It is expected that the final cost of the laboratories will be approximately $1,146,000, including architects' and engineers' fees and an allowance of $125,000 for laboratory tables, furniture and shop machinery. If the cubage of the building is figured to the bottom of the mat over the tops of the piles, it amounts to 1,367,000 cu. ft., from which the cost of the building and equipment is estimated at $.83 per cubic foot. The building will be completed in May and the research apparatus will be moved into it during the summer, so that it is expected to have the laboratory in full operation beginning with next October.

The funds for the building were provided in a gift by Mr. George Eastman for educational buildings when needed, with the proviso that these funds could be used as endowment until the buildings were needed. Mr. Lammot du Pont has contributed an amount equal to the interest on the cost of the building for two years, in order to expedite its construction.

The architects of the building were Coolidge and Carlson. The engineers were Charles T. Main, Inc. The building committee consisted of Everett Morss and Charles T. Main. All construction work was carried on under the direction of Stone and Webster.

OBITUARY

ALBERT PERRY BRIGHAM

ALBERT PERRY BRIGHAM, geographer, geologist, educator and humanist, died in Washington, D. C., on March 31, in the seventy-seventh year of his age. Born in Perry, New York, on June 12, 1855, and surrounded in his youth by the rich fossiliferous horizons of the Genesee Valley, what was more natural than that his alert and inquiring mind should be early aroused to an interest in geology. Later, having the good fortune to attend a series of lectures in geology in his college days, given by a man with keen insight into nature and with a rich philosophy, Brigham's interest in the subject was deepened.

But it was many years before he could yield to the urge and enter into training for what proved to be his life work. After graduating as valedictorian of his class and with high honors in classics, he trained to be a minister, and for nearly ten years was a successful pastor in Stillwater and Utica, New York. That pastoral duties did not check his following his avocation is indicated by the fact that his first paper, entitled "The Geology of Oneida County," was published in 1888, three years before he resigned his pastorate and entered the Harvard Graduate School.

This turning point in his career was the result of his experience in a summer vacation in 1889, when he attended the six weeks' Harvard field course in geology. Here he came under the influence of those master teachers of their day, Nathaniel Southgate Shaler and William Morris Davis, who, with Robert Tracy Jackson, the paleontologist, were later his teachers in his year at Harvard. Here, in a group which included Tarr, Westgate, Marbut, A. H. Brooks, Ward and the writer, he first had his interest aroused in physiography of the lands and for several years Brigham's publications and public addresses were largely devoted to physiographic topics.

Returning to Colgate University, his alma mater, as professor of geology in 1892 and until his retirement in 1925, he taught many generations of youth geology and geography, and, what is more, so gained their confidence and affection as to be a vital influence in their lives. With the eagerness of youth, which abided through life, Brigham at once began to be of the widest service to his science. A clear thinker, vigorous and fearless of speech, with a personality that won the confidence of his hearers, Brigham soon became in demand as a speaker to audiences of teachers and laymen. A regular attendant and contributor at professional meetings, his reputation grew apace, and when the Association of American Geographers was formed in 1904 it was just as natural to turn to Brigham for the secretaryship as it was to make the founder, Professor Davis, the first president.

For nine years Brigham guided the destinies of this little group of geographers who were bound together only loosely by any common interests. He contributed regularly to the programs a series of papers which indicate the gradual transfer of his major interest from physiography to economic geography and later to the human side of the subject. He also found time to take an active part in the work of the New York State Science Teachers Association, serving one year as president, and for eleven years was chief examiner on geography for the College Entrance Ex-