PENCIL POINTS

VOLUME II DECEMBER 1921 NUMBER 12

LUCK

THE unforeseen plays a big part in the lives of all of us. Some seem to have good luck and some never to get a chance.

The average man gets his fair share of both kinds of luck—but good luck has to be grasped and bad luck lands on us without any effort on our part. To be perfectly honest about it, most of us do not wake up until the fortunate opportunity has slipped by. Then while we are kicking ourselves or blaming fate, and are too much preoccupied to sidestep, along comes a wallop of the other kind of luck.

The man who is ready and alert usually finds plenty of good luck and is in a position to overcome almost any unfortunate circumstance that may arise.

Opportunity often appears with startling suddenness, more often it brushes past us unrecognized.

Things are happening all around us all the time and the more we get into the current of life, the faster they happen. In the Metropolis, with its swarming millions, life is kaleidoscopic, the opportunities are many, but the number of those scrambling for them is also great. There are more chances, but not necessarily better chances than in the smaller city.

The main thing is to mix with people who can help one. Those who help most are the ones from whom we gain inspiration, knowledge and strength—for these are the things that stand us in good stead when opportunity happens along. That is no reason for shunning the man who may sometimes have the opportunity to offer or be able to say a good word for one at the right time.

A man may be a hermit in a big city, and it is possible to know a sufficient number of desirable people in even a small place. But one thing is sure, the man who retires into his shell reduces to a minimum his chance of having good luck.

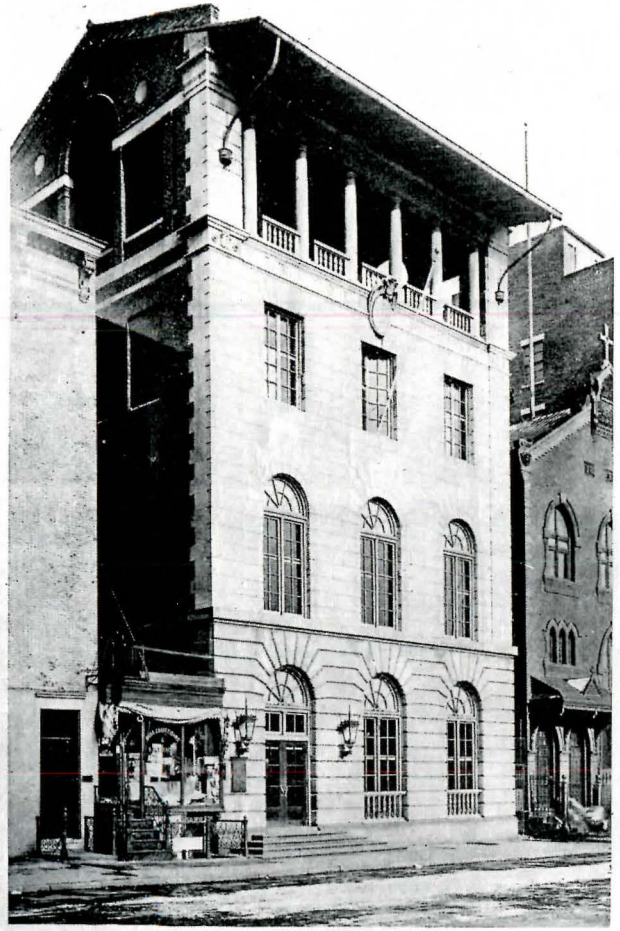
Then, too, some people attract opportunity and others repel it. The man whose work and personality inspire respect and confidence finds opportunity seeking him.

Some people seem to be possessed of the kind of contentment attributed to the proverbial clam—opportunity never disturbs them. Some men have a fixed idea that nothing good can ever come their way—they shut their eyes and swear they never had a chance. Both these types are truly unfortunate.

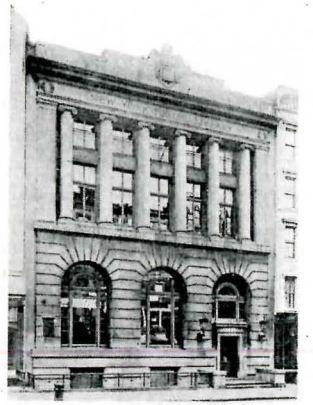
Most interesting are the reasons most of us let our opportunities slip by. Sometimes we have not had ambition or courage to aspire to anything so great, and when the big chance comes it seems too good to be true—while we are blinking it is gone. Often we are not ready, and know it. Often we are too slow because we are not tuned to quick, clear thinking and decisive action. The man who makes snap judgment often blunders, but he at least keeps going, while the man who reaches sound conclusions after the time for action has passed sticks fast. Neither thoughtless impetuosity nor sluggish caution wins—the man who puts himself in the way of opportunity, thinks quickly, and acts promptly, who is ready and has grit to hang on is the fellow who *has* good luck—he *gets* it.

1922.

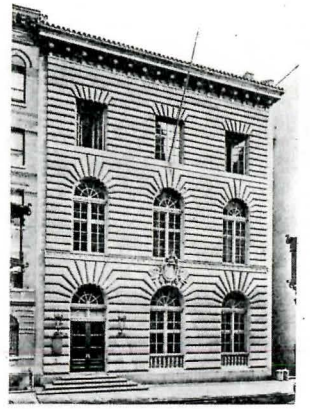
THE editorial program for PENCIL POINTS in 1922, we are now able to say, will be of the greatest interest and value, for we have already completed arrangements for the following features: Jules Guerin will write on "The Use of Color in Architecture;" Charles A. Platt will prepare an article on a subject to be announced later; Charles Z. Klauder will write on "The Study of Architectural Styles;" Otto R. Eggers will describe the process of making one of his renderings under the title "The Genesis of a Rendering," and will write about "Period Character in Working Drawings." Among the contributors will be Raymond M. Hood, Ely Jacques Kahn, Birch Burdette Long, Schell Lewis, Hugh Ferriss, Harvey W. Corbett, Francis S. Swales, Frank Vincent DuMond, John Vredenburgh Van Pelt, John F. Harbeson and Paul Valenti. A feature will be articles on planning buildings for different purposes, apartment houses, motion-picture theatres, etc. There will be a series of sketches by such well known architects as C. D. Maginnis, Wilson Eyre, Albert Kahn, Elmer Grey and others. Plates of historic architecture and figure studies will continue to be features. The "Specification Desk" and "Queries" departments will be continued. Other features will be introduced from time to time and an effort will be made to give a well-rounded program.



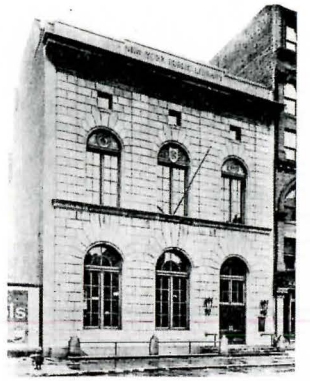
ST. GABRIEL'S BRANCH
1907



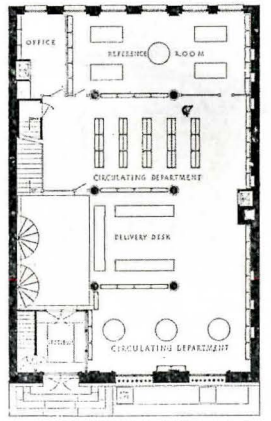
CHATHAM SQUARE BRANCH
1903



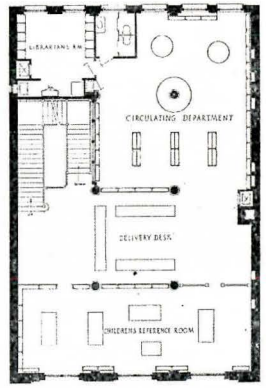
ONE HUNDRED AND FIFTEENTH ST. BRANCH
1907



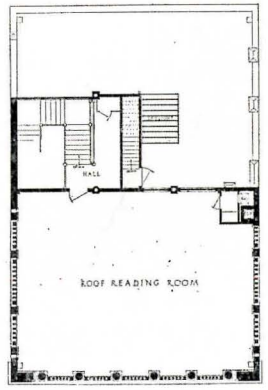
ONE HUNDRED AND TWENTY FIFTH ST. BRANCH
1904



FIRST FLOOR PLAN



SECOND FLOOR PLAN



ROOF READING ROOM PLAN

PLANS OF ST. GABRIEL'S BRANCH

Figure 114. New York Public Library, Branch Buildings. McKim, Mead & White, Architects. Reproduced from the "Monograph on the Work of McKim, Mead & White," Through the Courtesy of The Architectural Book Publishing Company.

THE STUDY OF ARCHITECTURAL DESIGN

WITH SPECIAL REFERENCE TO THE PROGRAM OF THE BEAUX-ARTS INSTITUTE OF DESIGN

CLASS B. PLAN PROBLEM. PART III.

The Use of Examples of Similar Problems

BY JOHN F. HARBESON

In this series of articles, which began in the January issue, Mr. Harbeson is explaining the method of working and how to get the greatest benefit in following the program of The Beaux-Arts Institute of Design. It is not intended as a substitute for personal instruction and criticism. The "Analytique" was treated in issues for February to September, 1921, inclusive.—ED.

THE "parti" chosen, the esquisse made and turned in, we are ready to start the study of the problem. One of the first things to do is to look up solutions of a similar problem, executed if possible. If there is none near by, the next best course is to look up "documents" of such solutions, and make notes and sketches of what is found. These "documents" may be divided into two general classes: *a* architectural magazines showing contemporary work, and *b* the books showing works that are now accepted as good—historical examples; books of photographs, engravings or drawings of executed work, which means largely European work, America being young as compared with the civilization of the old world. To study well most problems both kinds of "documents" should be used.

However, the existing buildings should be tried first, especially to study the technical details that are peculiar to the class of building in which the program lies. For instance, if your problem is a small art museum (one such was given in 1920 for which Figure 113 was a good solution as well as a charming piece of presentation) nothing will start you as well as to examine a small art museum; you may have been in it many times before, but if you go now, after having studied a program and made an esquisse for that kind of building, you will note many arrangements of plan and section that before had not been evident. If possible, talk to the curator; he will show what is good and what is unsatisfactory in the arrangement of that particular art museum, and why, and what improvements later experience would suggest as desirable.

If the problem is a public library, the student working in a city will be able to visit one of the Carnegie libraries, and though the solution of this problem may vary from city to city, the variations are usually the result of perfectly evident conditions. For instance, in New York City, where the price of land is prohibitive, these buildings are generally built between party walls, and must extend through several stories, as in Figure 114, while in Philadelphia, where land values have not risen to such figures, the usual solution is a free-standing building of one story and basement, as shown in Figure 115. The program will usually establish such a difference, and a building of either type, or any small library will show how the different elements of the plan worked together—to which rooms the public has free access, and how the "control" or supervision is arranged

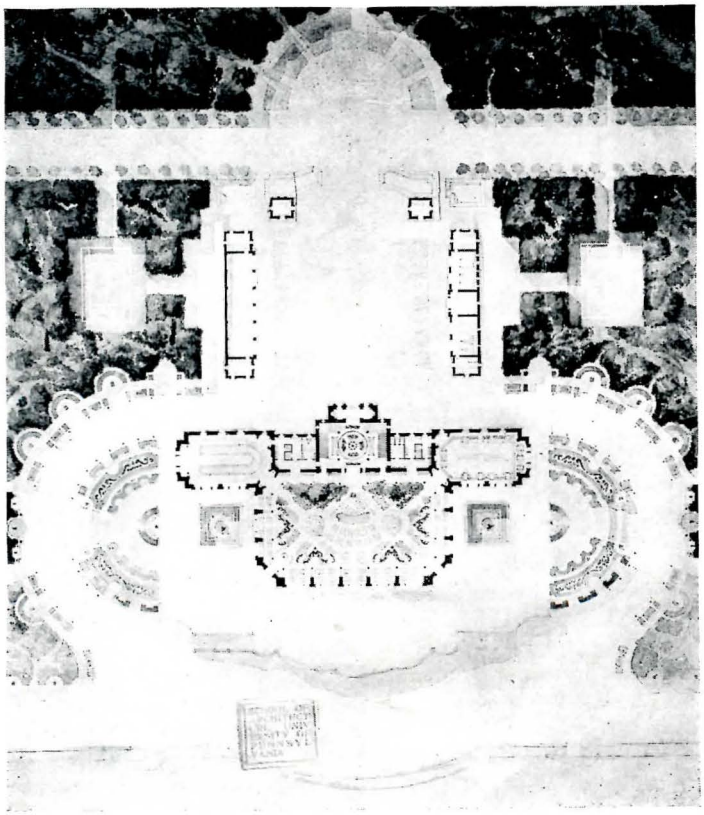


Figure 117. Plan of a Restaurant in the Environs of a Large City, by Mr. Faxon D. Atherton, Pupil of M. Gromort, Ecole des Beaux Arts, Paris.

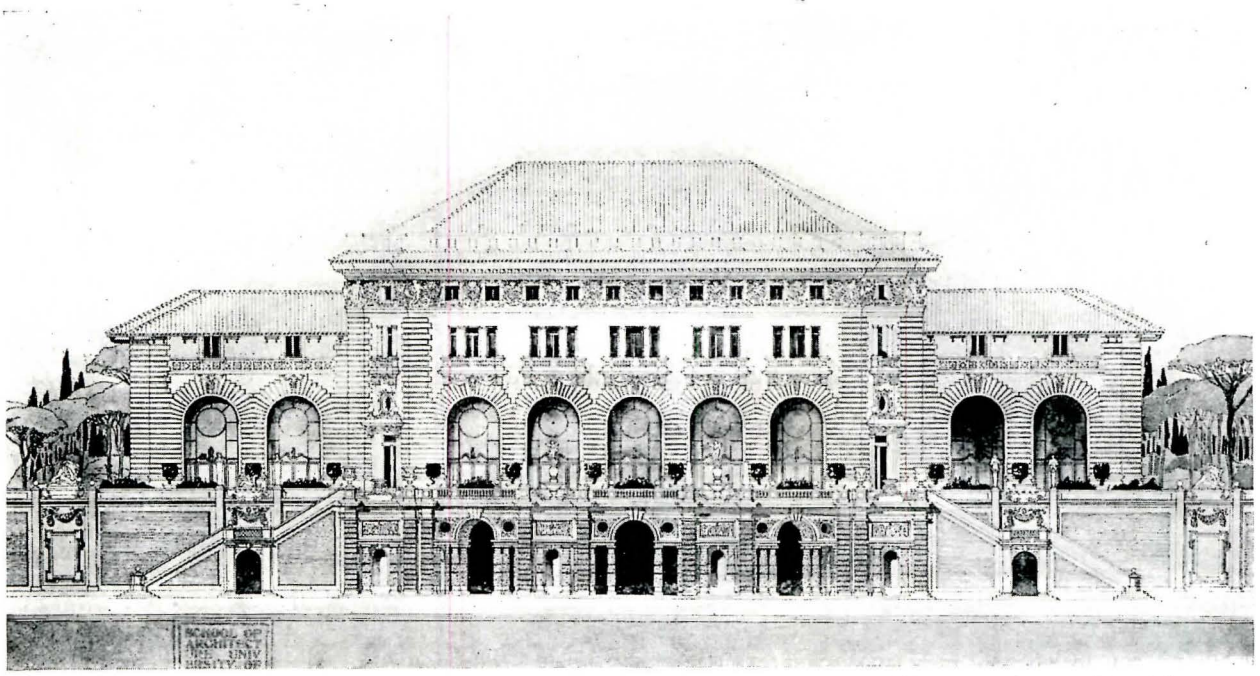


Figure 117a. Elevation of a Restaurant in the Environs of a Large City, by Faxon D. Atherton, Pupil of M. Gromort, Ecole des Beaux Arts, Paris.

Or the problem may be a small suburban railroad station, where a solution requires an arrangement of the means of access to and egress from the track platforms, the control of passengers and handling of baggage. Figure 116 illustrates a solution to a recent program on this subject. It is easy for any one to see a small railroad station; it may not be a good piece of architecture, but it probably solves satisfactorily the question of the handling of passengers and freight, and should be examined to discover how this is done. A few minutes' talk with the station master would be worth several hours of misdirected work over the drafting board. In this way one will learn how much headroom is needed over the tracks, what course the baggage follows after it is delivered by the van and until it is loaded on the baggage car; and where the ticket offices should be located so as to be accessible and yet not in the way of people hurrying to trains; how the stairs are arranged to and from platforms if the tracks are at a different level, and how much headroom is needed for these stairs.

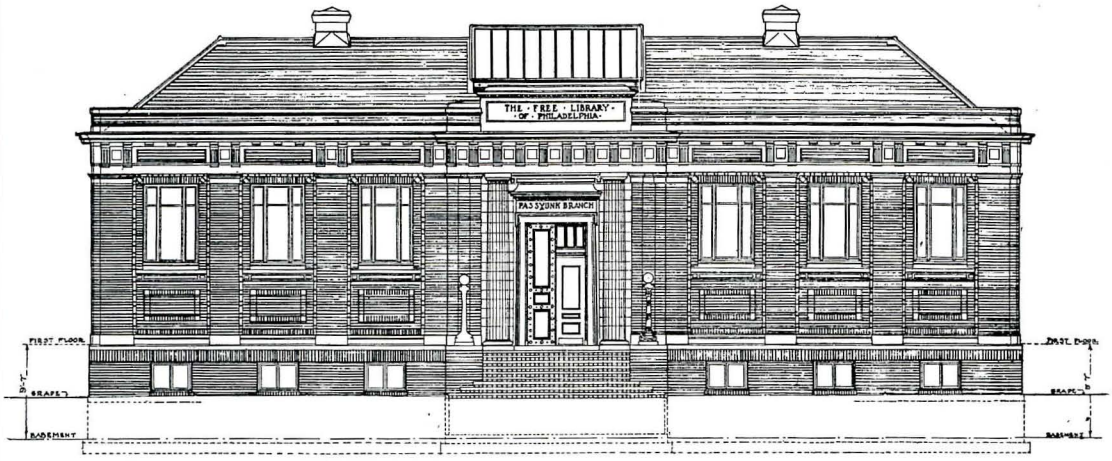
To take another example, if the problem is a restaurant (Figures 117 and 117a show a solution for such a projet), there are, in addition to the rooms accessible to the public, such as the vestibule, dining-room, private dining-rooms, coat and retiring rooms, the problem of the "services"—the handling of the food; how it enters without coming in contact with the arriving patrons; how the storerooms for the food, locker rooms for the waiters, cooks, dish-washers, etc., are arranged; how the kitchen should have, if possible, adequate outside light and cross ventilation; how the serving rooms are placed in relation to the dining rooms and to the kitchen. These are all matters upon which one can, *and should* obtain information.

After having gleaned as much of such knowledge as is possible, one can look through the architectural magazines to study plan arrangement, the arrangement to fit modern usage. Where the problem involves technical detail one can usually find in the architectural press authoritative articles on that particular problem, sometimes quite complete works like the series by C. H. Blackall on the theatre in the "Brickbuilder," 1908, and the later series on the moving picture theatre in the same magazine by C. A. Whittemore. Almost every field of modern architecture has been covered in the magazines by authoritative articles. The student should read and make notes from such articles; usually there is present on the jury some one who has specialized in the class of architecture in which the problem occurs.

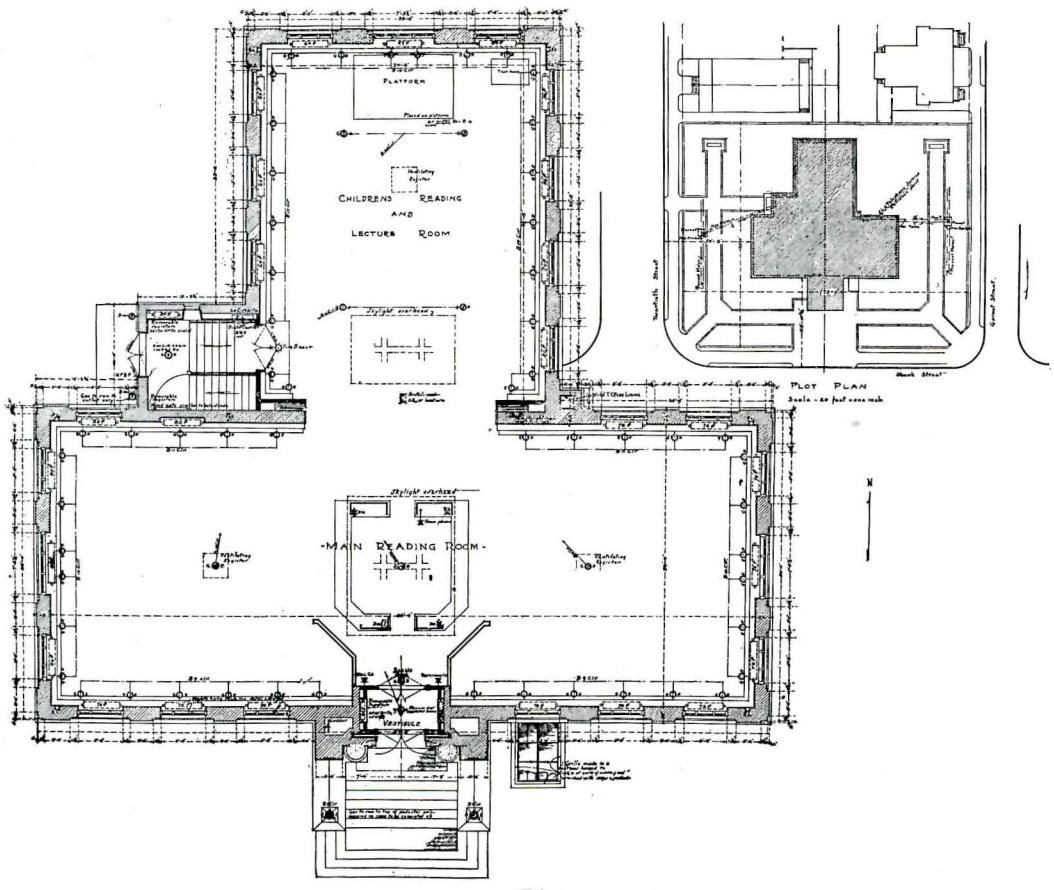
In studying any problem, look for solutions to similar programs; find wherein the program of these previous examples differs from the program being studied, that is the point to attack, the part of the problem that requires a new solution.

The study of design of façade, of proportion of window to wall, arrangement of openings, etc., should still be made largely from historic documents, and once the scheme has been well laid out it is well to study the old documents for the form of plans, for interesting arrangements of poché, etc.

In such books as Letarouilly's "Edifices de Rome Moderne," in "Architecture Toscane," and in "Palast Architectur," note in addition to the wealth of architectural detail, the profiles of mouldings, etc., and the many small plans, of which Figure 118 is but one example, that give a variety of forms for rooms and open spaces. The elevations shown in Figure 114 all show the influence of old documents, and illustrate the adaptability of historic forms to plans designed to fit modern uses. Figure 119, also from Letarouilly, shows how interest-

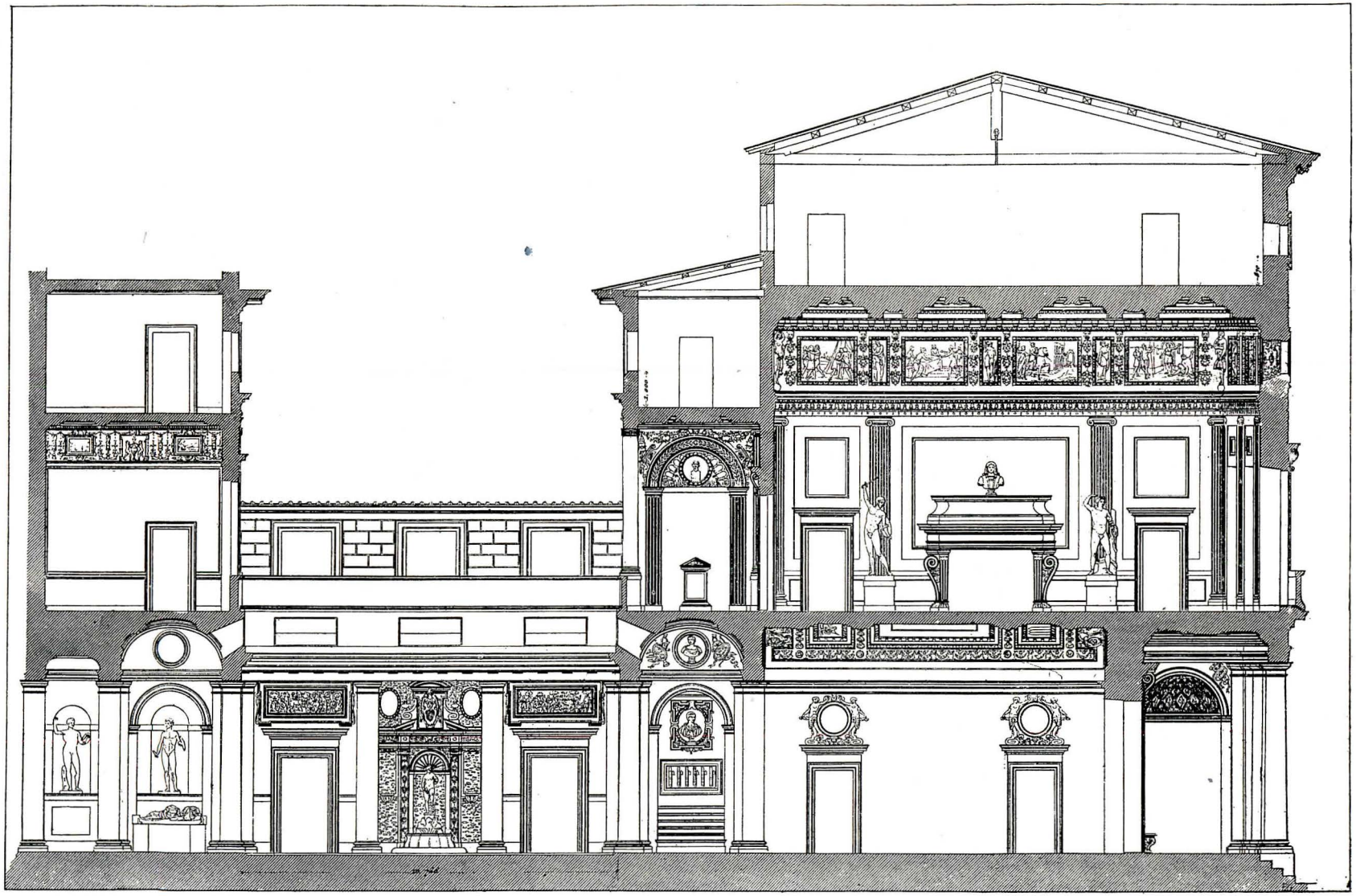


Front Elevation



Plan

Figure 115. The Free Library of Philadelphia, Passyunk Branch, John T. Windrim, Architect.

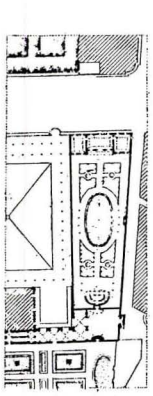


Coupe générale sur le Vestibule, le passage les deux Portiques et la Cour.

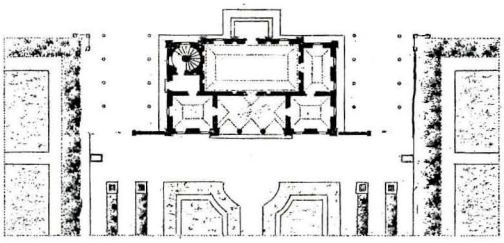
Echelle de 8 mill. pour mètre.

Figure 119. Section of Palace of Pietro Massimi, Rome. From Letarouilly's "Edifices de Rome Moderne."

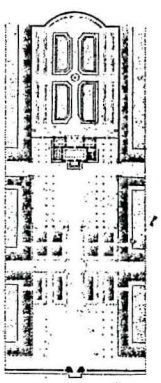
VUE DE L'ENTRÉE LATÉRALE DU PALAIS ROSPIGLIOSI PRISE DE LA PETITE COUR



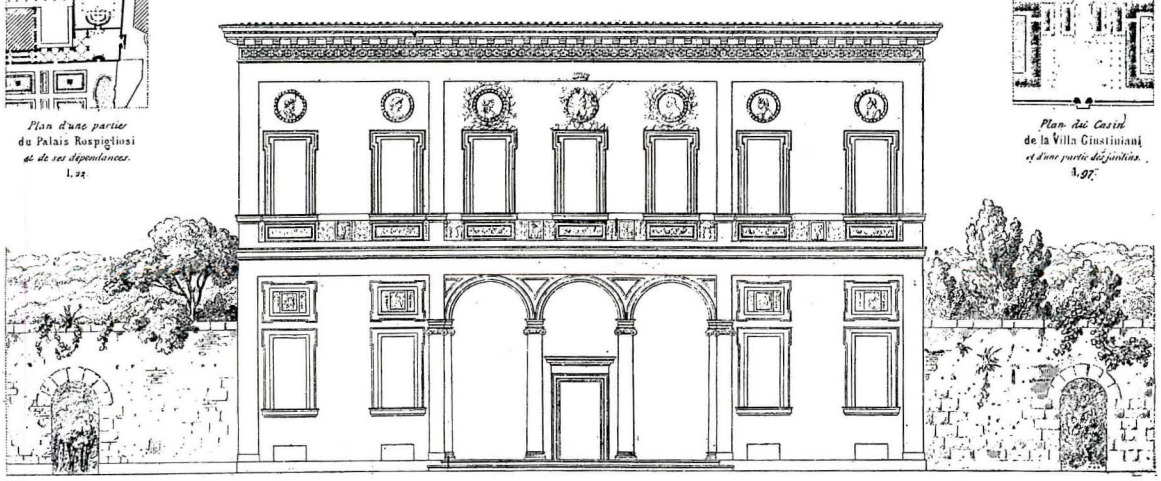
Plan d'une partie du Palais Rospigliosi et de ses dépendances.



Plan détaillé du Casin de la Villa Giustiniani.



Plan du Casin de la Villa Giustiniani et d'une partie des jardins.



ELEVATION POSTÉRIEURE DU CASIN DE LA VILLA GIUSTINIANI.

Figure 118. Rospigliosi Palace and the Casino of the Villa Giustinianini. From Letarouilly's "Edifices de Rome Moderne."

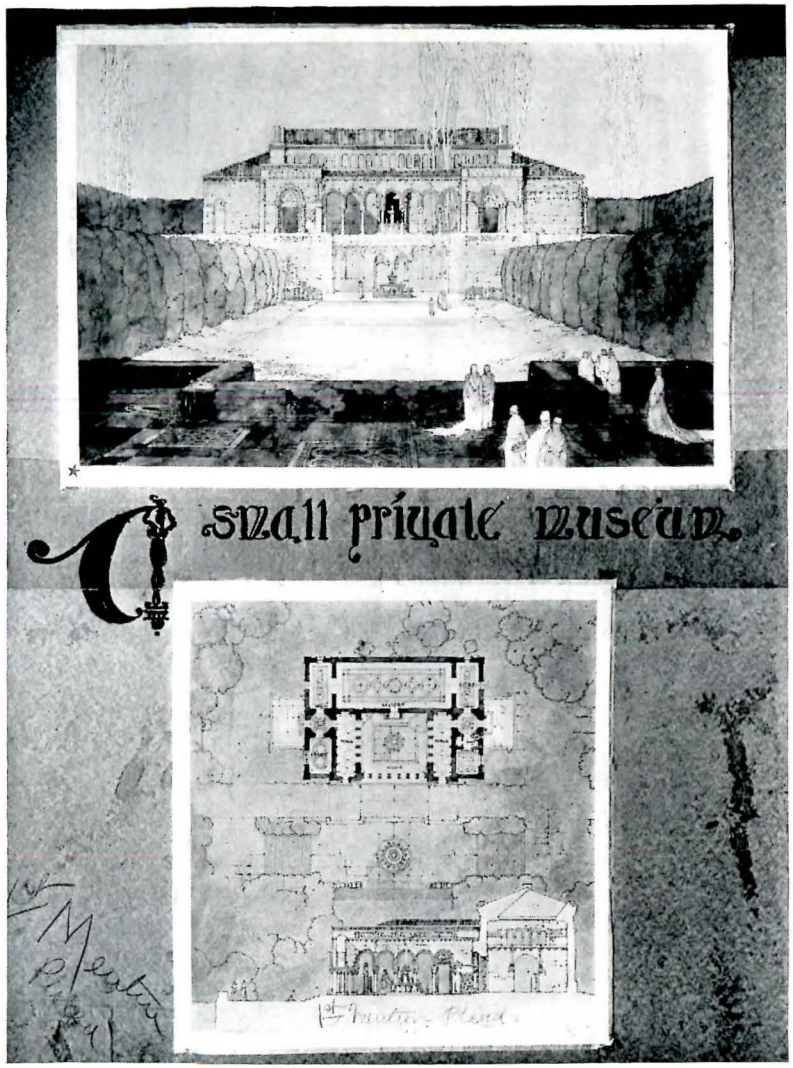


Figure 113. Class B Projet, "A Private Art Museum."
G. W. Trofast-Gillette, Columbia University.

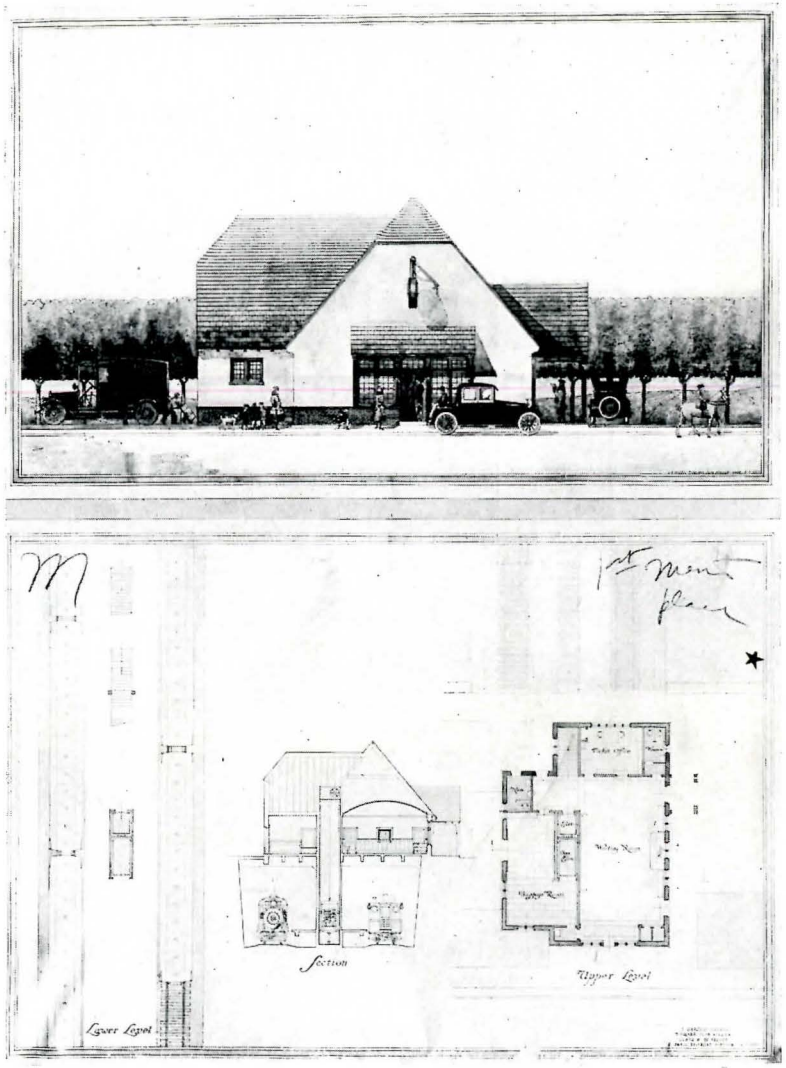


Figure 116. Class B. Projet, "A Small Railroad Station."
J. H. Geissel, T-Square Club, Philadelphia, Pa.

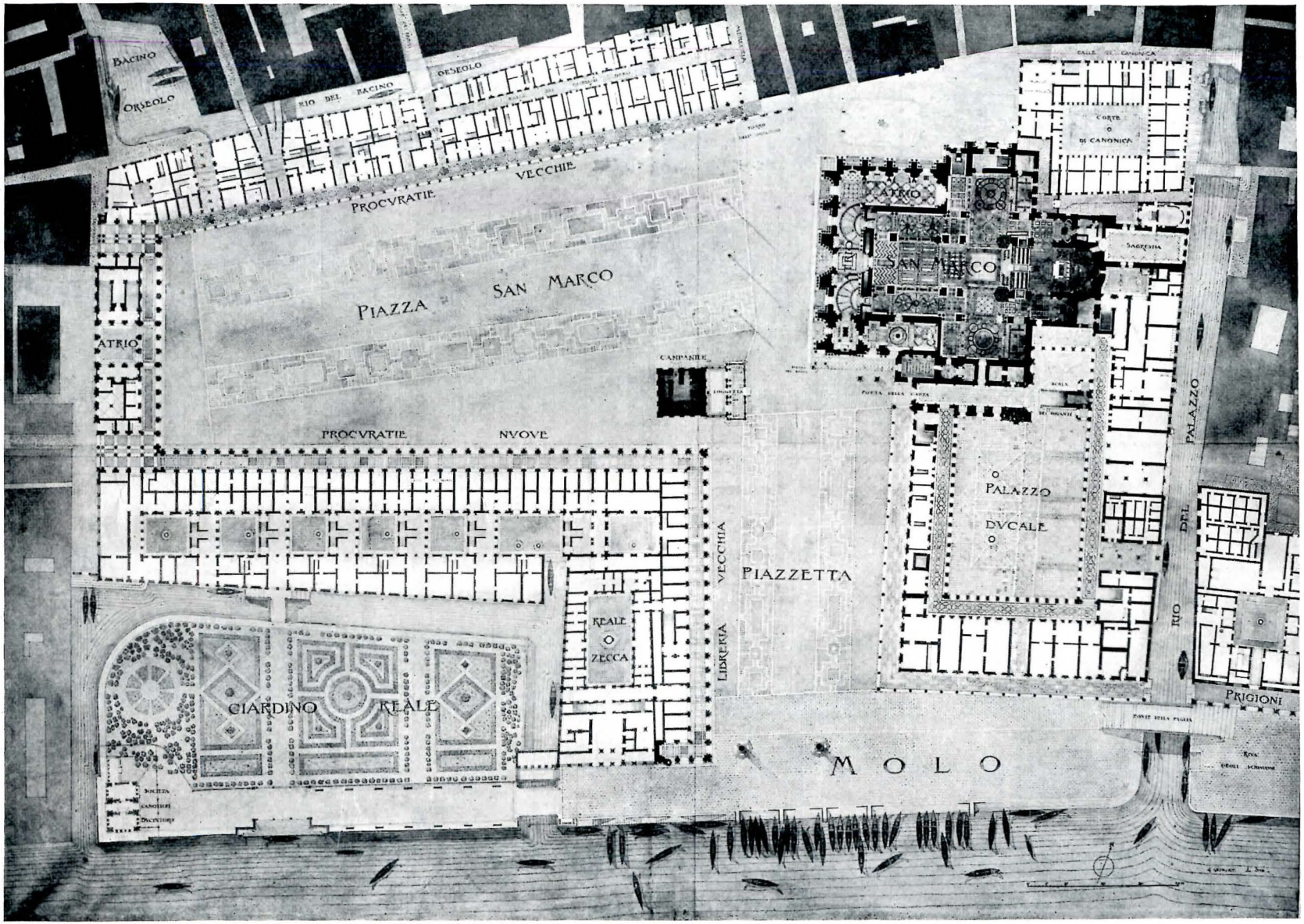


Figure 120. Buildings About the Piazza San Marco, Venice. From Gromort's "Choix de Plans de Grandes Compositions Exécutées."

ing the section of a small building may be made by the variety in treatment of the different rooms, and how the vaulted forms over some contrast with the flat ceilings over the others.

Durand's "Paralléle d'Architecture" is interesting as showing grouped together the buildings with similar programs. Gromort's "Choix des Grands Plans Executées" is valuable for the study of plan forms. Figure 120 from this book shows the great variety of poché that really exists in well designed buildings.

The work of the Ecole des Beaux Arts at Paris; the "Concours d' Ecole," the "Medailles," and the "Grands Prix" are of course good documents for the composition of forms and for their indication; it should not be forgotten in using them that they, too, are school work, i. e., the work of men, who though clever, are not yet mature, and that the problems there illustrated are done in a limited time, of which time the greater portion is spent on studying and perfecting the "parti," so that they are not as good documents *for architectural forms* as are the books of historic examples above mentioned.

The student should now become familiar with Guadet, studying enough French to find his way through it—it is written in simple language—and he should read the chapter bearing on the problem in hand. If a student were limited to one book, this is the one, in my opinion, that would be of most service to him.

Your "Patron" will criticise your work, correct the proportions of your studies; it is for you to *try out different ideas for your plans, sections, and elevations,* to put before him for his criticism. The elevations in Figure 114 illustrate the variety that is possible in one elevation for the same plan; each of these is good, no one of them could be picked out as being "the" elevation. It is well to realize that there is no one arrangement of forms, especially in a façade, and generally in a plan, that is the "best" arrangement; but that there are many that may be good if well handled.

THE CHICAGO ARCHITECTURAL CLUB.

THE Chicago Beaux-Arts Atelier, under the guidance of William E. Parsons, has increased considerably this fall and should bring some big results. The drafting room will have to spread out into the library during the charette. Gerald Barry, who has just returned after completing the two year special course at the University of Pennsylvania, is the *Massier* for the new season and Robert E. Dando, who did all six problems of last season with five mentions, is the *Sous Massier.* It is a good combination and with the thirty or more other artists, the Architectural Club Atelier may be expected to attract considerable attention during the season.

The Van Dort Sketch Competition ($50.00 cash prize), a nine-hour Esquisse-Esquisse "en loge" was divided evenly between G. L. Barnum and G. M. Nedved. The subject was "A Shop Front." There were seventeen sketches and all very commendable drawings. The Jury of Award consisted of Howard Shaw, William J. Smith, and William E. Parsons.

French Classes are in progress and the Atelier students are doing nicely. T. E. Tallmadge gave the members an interesting talk with stereopticon slides on the subject of his recent trip through Spain. The Chicago Architectural Club is always interested in the published news of other clubs and will gladly welcome visitors if they will stop at 40 S. Clark Street, Chicago.

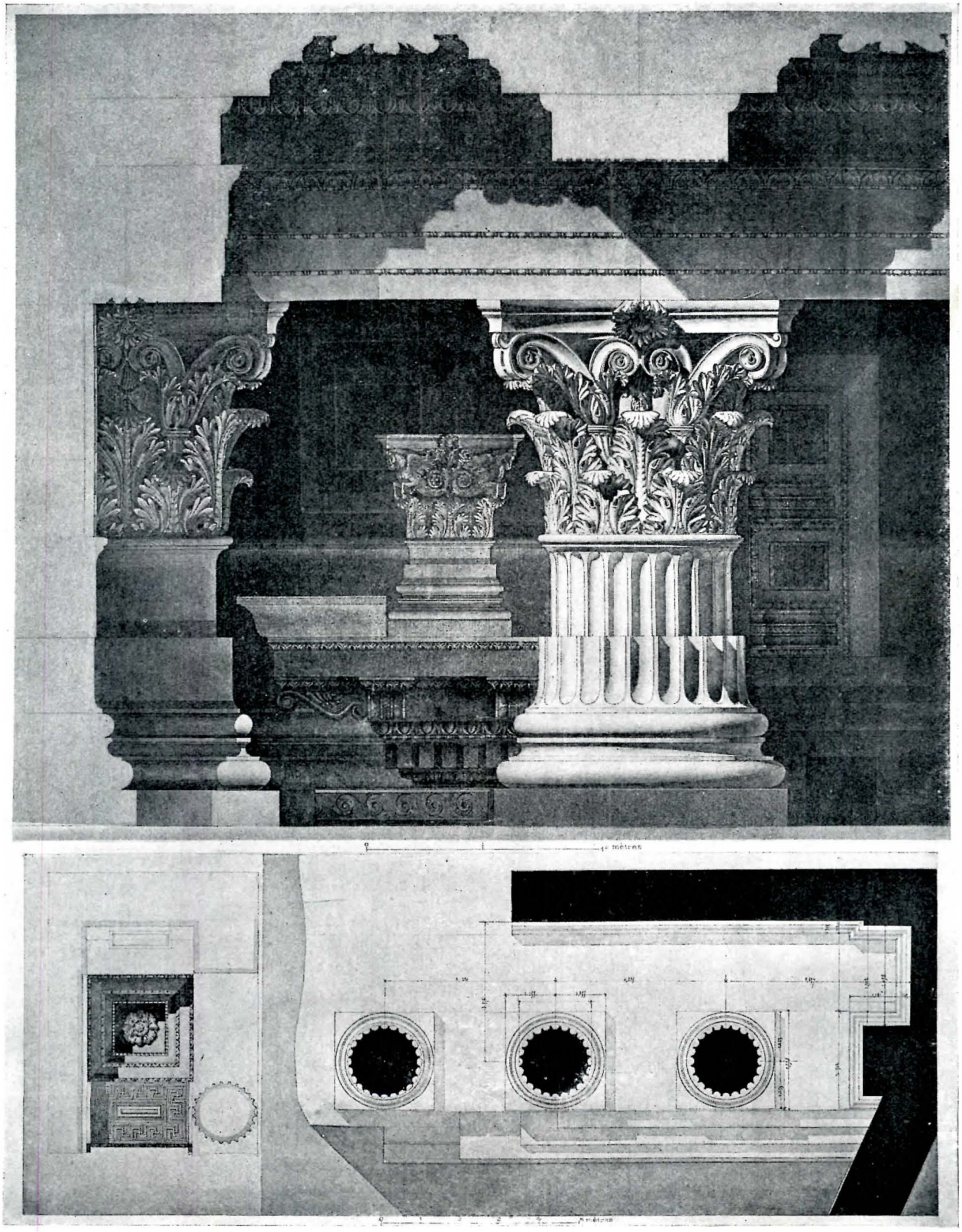
SEMI-CENTENNIAL OF COLLEGE OF ARCHITECTURE OF CORNELL UNIVERSITY.

THE formal opening of the celebration of the Fiftieth Anniversary of the founding of the College of Architecture at Cornell University took place on the morning of October 21. President Farrand, presiding. Thomas Hastings, Professor Emerson, Head of the Department of Architecture at the Massachusetts Institute of Technology, and Dean T. F. Crane were the principal speakers at the convocation. The program for Friday evening included an informal reception for President and Mrs. Farrand, the presentation of medals, and an alumni exhibition stunt by New York alumni.

On Saturday morning one of the features was an exhibition of the work of alumni. It included architectural drawings, models, batiks, water colors, etchings, and pencil sketches. Mr. Trowbridge presided at the luncheon. The visiting alumni attended the football game with Colgate in a body. After the victorious end of the game the regular mid-winter architects' banquet was merged with the semi-centennial celebration and the property dragon which had been a feature of the afternoon parade was brought out to meet a spectacular and fiery end at the foot of the library steps. Saturday evening "The Purloined Thumbtack," a play, was presented by undergraduates. It was written and directed by C. M. Stotz, '21. This stunt put on by the undergraduates for the benefit of the alumni, was so great a success that plans were made immediately to present it before the University body. Other features crowded the time and helped to make the celebration a memorable event.

ARCHITECTURAL CLUB OF NEW HAVEN

ONE of the most interesting and instructive lectures given before the Architectural Club of New Haven, Conn., was that delivered Tuesday evening, November 1st, by Professor Sheppard Stevens, of the Architectural Department of the Yale School of Fine Arts, on a "Vacation Tour Through Italy." The lecture was illustrated by beautiful stereopticon views and showed the most important churches, palaces and other buildings as well as the ancient architecture of Rome and early examples of Florentine architecture. Professor Stevens, who gave the architects a similar lecture on "Architecture of India," pointed out many details which traced the history of the different schools of architecture met with in Europe.



DETAILS OF THE TEMPLE OF MARS THE AVENGER, ROME

RESTORATION BY A. DUTERT

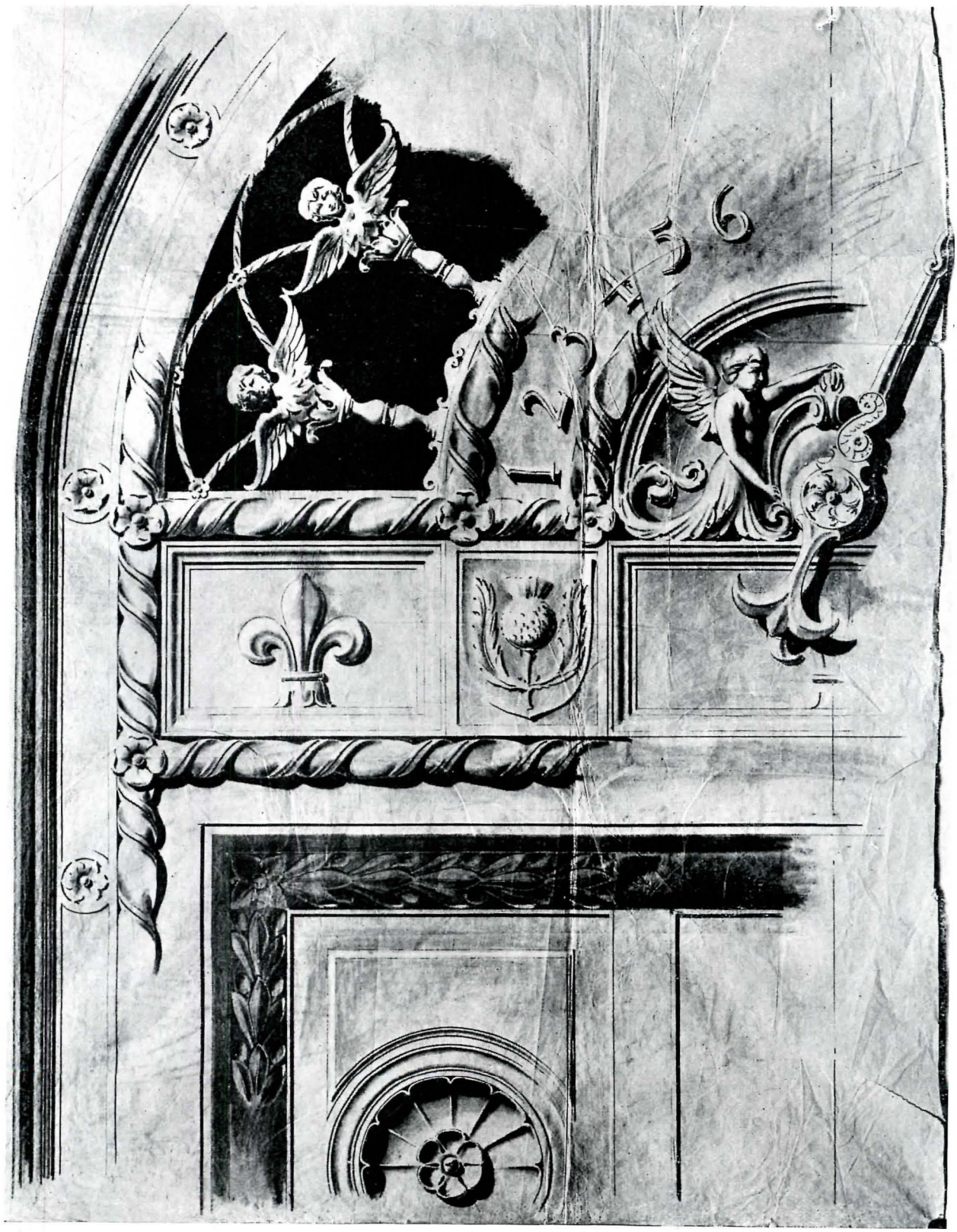
FROM H. D'ESPOUY'S "FRAGMENTS D'ARCHITECTURE ANTIQUE"

On the opposite side of this sheet is reproduced a plate of details of "The Temple of Mars, The Avenger," which was erected by Augustus in the centre of his forum in Rome, to commemorate the victory at Philippi and the vengeance taken upon the assassins of Caesar. These remains are regarded as among the most beautiful existing examples of Roman architecture.

PENCIL RENDERING BY CHESTER B. PRICE. S. W. STRAUS & CO., BUILDING, NEW YORK CITY

WARREN & WETMORE, ARCHITECTS

On the opposite side of this sheet is reproduced an interesting pencil rendering of a business building by Chester B. Price, the new building on Fifth Avenue, New York City, for S. W. Straus & Co. This drawing is an example of architectural rendering in which much of the art quality has been incorporated.



CHARCOAL DRAWING BY SCHELL LEWIS, DETAIL OF AN ELEVATOR ENCLOSURE

CHARLES A. PLATT, ARCHITECT

One of Schell Lewis' effective charcoal drawings of architectural detail is reproduced on the other side of this sheet, showing an interesting design for one of the features of modern buildings that affords an opportunity for ornamentation. As stated previously in connection with the reproduction of Mr. Lewis' charcoal drawings, they are made for the purpose of studying the design in the office and form a rapid means of representation.

PENCIL STUDY BY H. I. STICKROTH FOR ONE OF THE FIGURES IN HIS MURAL PAINTING "THE VALLEY OF CONTEMPLATION"

The figure study reproduced on the other side of this page is for one of the figures in the same mural painting as the one reproduced in the November issue, "The Valley of Contemplation" by H. J. Stickroth, and like the other study it was drawn while Mr. Stickroth was a Fellow of the American Academy in Rome. In addition to being an excellent example of pencil drawing from life, it is remarkable for the characterization of the subject.

ARCHITECTURAL DETAIL PART VIII

BY JOHN VREDENBURGH VAN PELT

This is the eighth instalment of an article in which Mr. John Vredenburgh Van Pelt, formerly Professor in Charge of the College of Architecture, Cornell University, Architecte Diplomé par le Gouvernement Français, and author of "Essentials of Composition," will discuss the designing of good architectural detail and point out the means by which the ability to produce good detail can be developed. Reproductions of detail drawings from some of the best architectural offices will accompany this article and the publication of this series of drawings will be continued after this discussion of the subject has been completed—making a valuable feature of this journal indefinitely.

MARBLE, harder than limestone, is sawed and planed, and then, as this brings out the sparkling quality of the crystallization, it is sand rubbed or honed by rubbing it with a pumice or hone stone. Most marbles take an excellent polish and polished marble is popular, the best polishes being obtained by rubbing the stone on a revolving wheel covered with felt and fed with oxide of tin called polishing putty. In some plants oxalic acid mixed with polishing putty is resorted to, but although this is quicker and consequently cheaper, it is less good because less enduring. Ordinarily marble is carved with a pneumatic tool, only the final touches done by hand. The backgrounds may be finely pointed, tooled or finished smoothly. Sometimes slabs of polished marble are cut and the two pieces set as they open out, showing the veining of like pattern reversed or "matched."

Little change in the final treatment of granite has been made in a long period of years. To quarry it, holes are drilled in line usually with pneumatic drills and the stones split off. Then holes are drilled along the lines on which small blocks are to be split and wedges driven in, or they may be sawed, steel shot or carborundum being the abrasive material. Irregular pieces may be broken off with a hammer and if not to be left hammer dressed or rock faced, the surface is pointed and for rougher work axed with a pean hammer (a single cutting edge).

In pointed work there are three grades, "coarse," with indentations an inch to an inch and a quarter apart, "medium" five eighths to three quarters of an inch apart and "fine pointed" about three eighths of an inch apart. In machine pointing, the point is held in an arm of the machine, moved over the stone by the workman while rapid blows are delivered by the mechanism. It is more uniform than hand pointing.

For finer work a patent hammer is used in which four or more parallel blades are set in a seven-eighth inch slot. It is important to remember that four cut work does not give four cuts to the inch as in limestone, but more nearly five. After the surface has been gone over once with the hammer, the process is repeated and the double hammering even though four blades are still retained in the seven eighth inch slot makes the cuts nearer together and may be called six cut. To produce eight cut, a hammer with more blades in the seven eighth slot is generally used and the surface is gone over a third time. Straight-edges are tried on the stone in opposite directions to detect the twist of the surface or "wind," and this is worked out under the hammering. Granite takes a bush hammered finish well as the surface is not bruised and the ridges stand up sharply. Furthermore it may be rubbed and polished. The important point in polishing granite is to prepare the surface perfectly so that there may be no scratches or "stun" marks from previous hammering. These stun marks sometimes go in a quarter of an inch and are not noticeable until the polish is cleaned off.

Mr. Edgerton Swartwout gave me an interesting piece of information about the finish of the Mary Baker G. Eddy Memorial. The stone, white Bethel granite, has black mica spots in it and when honed as originally intended these came out with startling vividness. There were pneumatic carving tools on the job and where they had been used in the backgrounds the mica seemed to have been dislodged and the spots did not show. So the whole surface was treated with the air tool giving the monument its present beautiful smooth, somewhat snowy appearance.

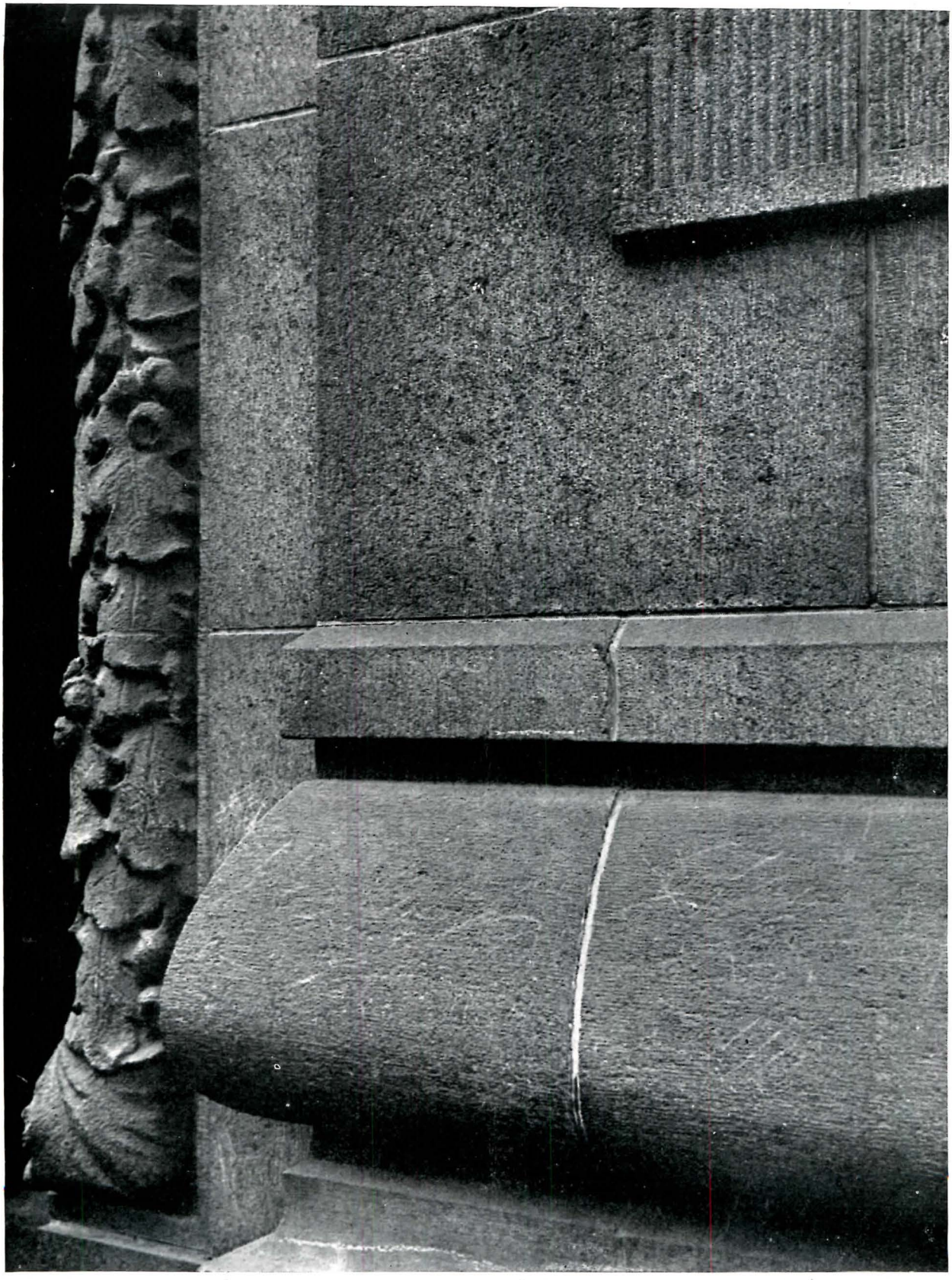
Figuring granite is much more complicated than figuring limestone. The number of cubic feet of material is first estimated. Then the cost of the bed and build joints is added, next the cost of all exposed surfaces, a cost influenced by the kind of finish, and finally the number and length of the different mouldings.

One of the New York plants gives the following comparison as an approximate lump sum figure for granite ashlar finished and set in the wall at present prices.

Rock Face	$ 6.00
Pointed	7.25
Six cut hammered	8.00
Honed	14.00 to 15.00
Polished	14.00 to 15.00

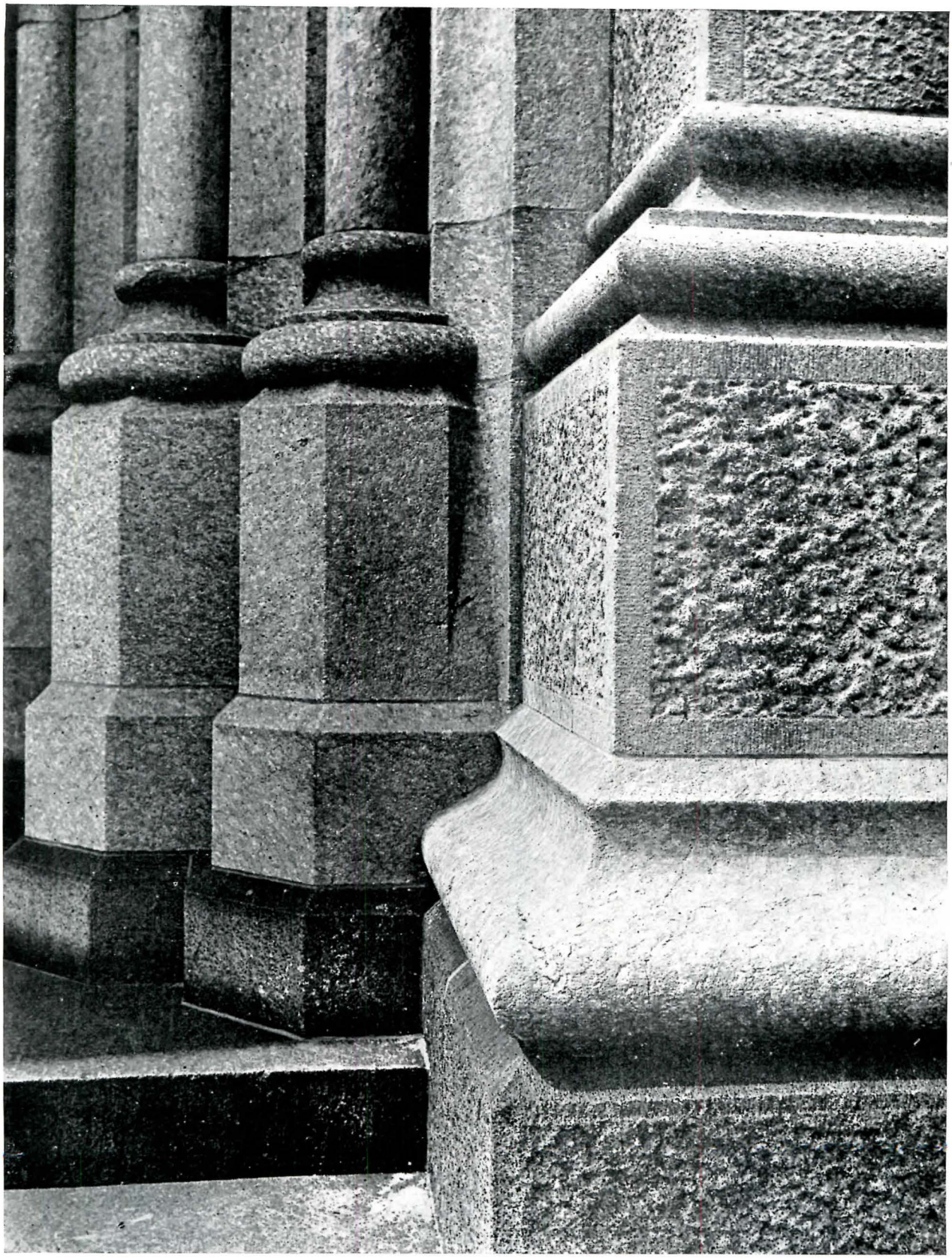
The gentleman who supplied this data said that inasmuch as the chief labor in polishing is in the preparation and in their plant they are well equipped for that purpose, it costs them scarcely any more to run the stone through the polisher than to leave it honed. In the finer work granite joints usually vary from 3/16 to 1/4 of an inch.

A most important point to keep in mind when designing for any kind of stone is that tooling and special finishes, like ornament, become uninteresting when the whole building is covered in the same way. "Variety is the spice of life." Better to take the stone as it comes from the gang saws and only tool certain courses or quoins than to apply a machine finish even though the latter might prove more costly.



Detail of Grand Central Terminal, New York City.
Designed by Warren & Wetmore, Architects.

Detail of The University Club, New York City.
Designed by McKim, Mead & White, Architects.



Detail of St. Patrick's Cathedral, New York City. Designed by Renwick.

The University Club of New York, McKim, Mead & White, architects, is a pre-eminent example of discrimination shown in contrasts of surface finish. A close up is shown on page 25. The stone is granite and the style an Italian Renaissance; but one of the most interesting factors that make for interest in the design is the contrast of the light, smoothly finished stones that alternate around the openings with the mass of the wall which has a rather closely pointed finish. The smoother stones are finely patent hammered and in the form of *bossages* with a quarter round border, project 1 3/4" from the back of the joint space. On the other hand, the rougher stones which have darkened with accumulation of dirt and, covering the larger surface, form a sort of background, have only a narrow fillet rebated around them and project but an inch from the back of the joint space. The fine axing or patent hammer work averages 12 incisions to the inch, these being vertical for the most part. The indentations of the pointing are about one half inch apart. The fillet faces between the flutes of the pilasters and columns at the entrance are horizontally axed six actual cuts to the inch. The joint spaces are two inches wide and the stone courses two feet two inches high. Interesting to compare with this exterior granite is the Tennessee marble in the open vestibule. Here the stone jointing lines up with the exterior, the flat joint space being again two inches wide. The *bossages,* if they can be called that, are square and project only a sixteenth of an inch, just enough to make a fine line, while the actual joints are laid without cement as close joints and vary from a sixteenth to a thirty second of an inch in width. This gives an effect of the greatest refinement, in keeping with the restrained mouldings of the wainscot and door casings.

Since the University Club is granite it may be interesting to compare it with the granite base of the Grand Central Terminal of New York, designed by Warren & Wetmore, Architects. The example on page 24 shows a large moulding, probably patent hammered and above it the general wall surface, six cut work, (about seven incisions to the inch), while a projecting panel has a border in which is a series of vertical convex flutes each seven eighths of an inch wide. The carving surrounding the door is interesting as it is sufficiently large in scale and broad in treatment to appropriately express the material of which it is made. It is worth while to note that the granite of the Grand Central has a coarser grain than that of the University Club.

St. Patrick's Cathedral of New York, the work of Renwick is interesting to compare with the two foregoing examples. Except for the granite base course the stone of this building (see page 26) is Tuckahoe Marble. It is a coarse-grained marble with splotches of crystallization throughout that make it resemble rock salt. Our view is taken at the north entrance. Accumulation of New York soot settling in the pointed or axed finish makes the building look as if it were built of granite, but I do not think the scale of the mouldings or the way the surfaces are treated, is unsuited to this particular variety of marble with its open veins and cavities. Therefore, that the general terms marble and granite appear to be mixed has little weight. There are three types of pointed work in the photograph. That of the granite in the lower base is not extremely coarse, as the indentations are only an inch or so apart and not very deep. The next pointed course at the level of the plinth below the column bases has indentations one and a half inches apart and much deeper than the ones in the granite. The wall surfaces at the height of the column shafts, (indeed this finish covers the major part of the building) is a pointing not very deep in which the indentations are three quarters of an inch apart. The upper border at the corner is probably tooled with a chisel and is two inches wide. The border at the level of the column plinths is one and a half inches wide, has about four bats to the inch and is probably tooled. Although it appears regular enough in the photograph to have been done with a patent hammer, close inspection shows irregularities. The axed or patent hammer border around the granite is about an inch wide. The planes of the mouldings, fillets, washes, plinths, etc., are lightly tooled, most of this vertical and 8 bats.

The three buildings just shown illustrate well textures peculiarly characteristic of the harder building stones. Our next step will be to examine at close range different kinds of drove work, tooth chiselling and crandelled finish that produce textures characteristic of the softer sandstones and limestones.

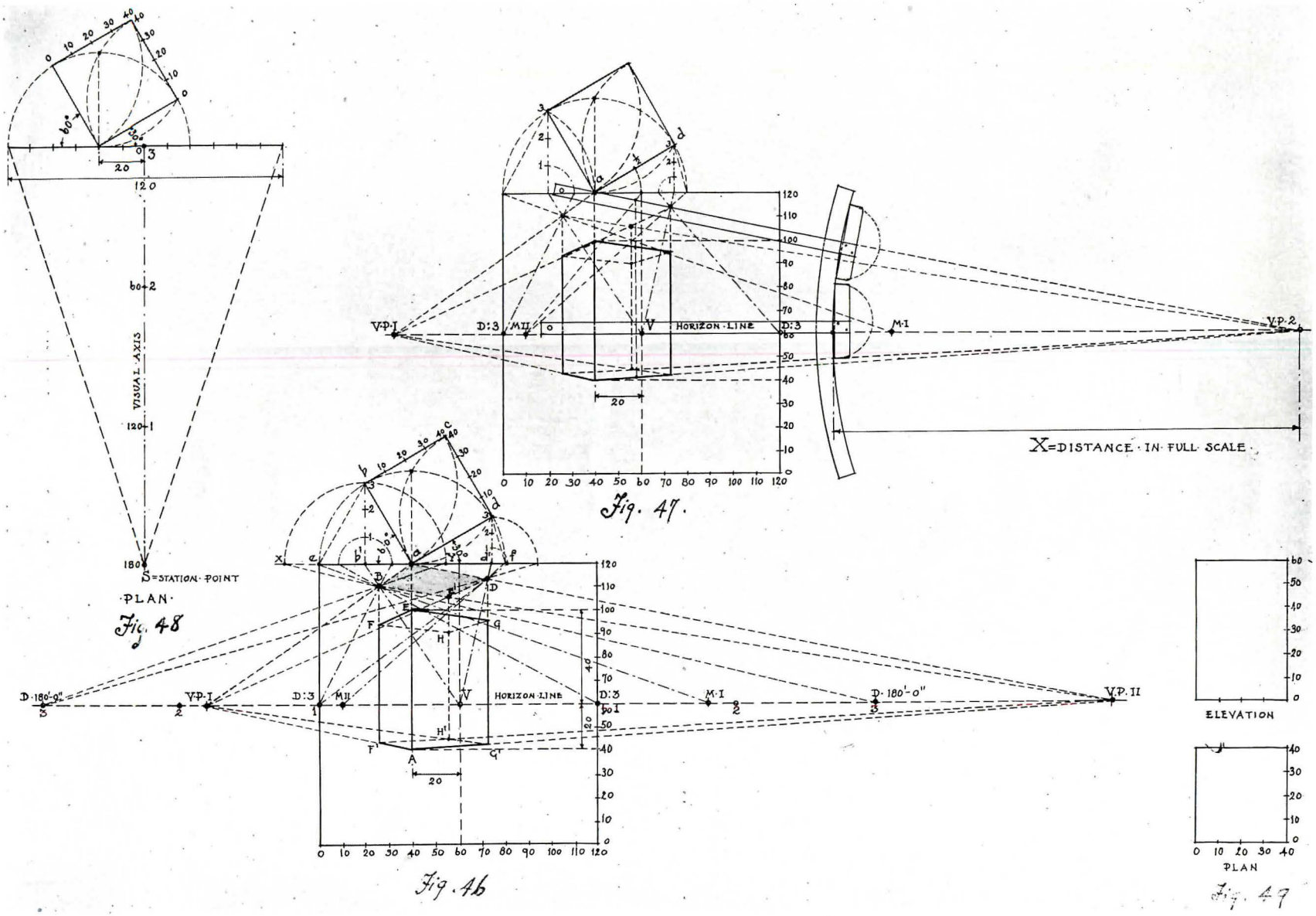
LIFE OF DANIEL H. BURNHAM

A BOOK of intense interest to the architect and draftsman is "Daniel H. Burnham, Architect, Planner of Cities," by Charles Moore. This book has just been published by Houghton Mifflin Company, 4 Park Street, Boston, Mass. It is in two handsome volumes with many illustrations. The price is twenty dollars. Since much of Mr. Burnham's public career came under Mr. Moore's observation and the book includes quotations of many of Mr. Burnham's expressions on various subjects, as well as an orderly, interesting and intimate account of the works of Mr. Burnham and his associates, it gives well-rounded impressions of the life of this distinguished architect.

To follow, in the pages of this book, Mr. Burnham's development, his progress, and to appreciate the logical, clear-sighted and masterly manner in which he handled the tasks he undertook and brought them to success is inspiring as well as keenly interesting.

The author shows an appreciation of the importance of the character of the man back of the work and throughout makes clear the qualities that were responsible for his success in handling the large problems with which he was engaged for so many years of his life.

Among the most interesting chapters are those which treat of Mr. Burnham's work in connection with the World's Columbian Exposition in Chicago.



Perspective Drawing, Figures 46, 47, 48 and 49. See text on opposite page.

PERSPECTIVE DRAWING, PART XVIII

BY PAUL VALENTI

In this series of articles Mr. Valenti is taking the student step by step through a course in the direct construction or perspective plan method. Mr. Valenti, who is Instructor in Architecture at Washington University, St. Louis, Mo., is a graduate of The Royal Academy of Fine Arts of Brera, Milan, Italy, where he received the degree of Professor of Architecture. Mr. Valenti studied under Professor Ferrario, principal of the school of perspective at the Academy and scenographer at "La Scala," theater in Milan, and under other distinguished masters. Upon the investigations and the ripe practical experience of these men, he has based the course which he is presenting to the readers of this magazine. The method shown here, once it has been mastered, saves time and gives increased accuracy over the usual practice in laying out architectural perspectives instrumentally.—ED.

IN DIAGRAM, Figure 46, the process is shown of finding a solid of certain specified dimensions (and this solid might represent the mass or nucleus of a building or group of buildings) and under certain specified conditions of angle (of this solid, to the transparent plane), also the distance of the observer, and the location of the solid with respect to the visual axis (see Figure 48). All this operation is done in its complete elementary form to familiarize the student with the entire layout. The scope of the subsequent diagrams will be to show the reductions of these operations to the *minimum*, thus eliminating a great deal of the tedious work, and confining these operations to the smallest possible area.

Considering, therefore, Figure 46, at a scale that is convenient, trace a perfect square 120 feet per side, representing the transparent plane. Trace both the vertical and horizontal axis (the latter being the horizon line). On the upper limit of the picture and at 20′-0″ (in the scale of the picture) to the left of the central vertical axis construct a perfect square in the geometric plane, 40 feet per side, and at an angle to the horizontal line (representing the upper limit of the picture) of 30″-60″ as shown (Figure 46). This is a condition arbitrarily selected that is, see Figure 48 which represents the plan of the layout and Figure 48A representing the Elevations of the same layout. In other words, having to view an object of 40x40 feet and at the determined angle mentioned, also 20′-0″ to the *left* of the observer, in order to embrace the whole object plus some "entourage" or surroundings, we have established our picture plane at 120 feet square. Recalling the distance of the observer to be 3x½ the width of the picture, it is a simple question of mathematics to find that the observer will be stationed at 180 feet away from the transparent plane, and consequently (in this case) the same distance away from the object in question since the object is immediately behind the transparent plane and touches it at its nearest point. Returning to Figure 46, the object at point *a* being tangent with the upper limit of the picture, we know this point is common to the two planes, the geometric and the perspective. Thus we perceive that this solid is directly behind the transparent plane, or in other words, the corner of it is in the same plane, and consequently it is the remaining three points of this plane or points *b, c* and *d* that we must find in the perspective plan. Though in this case the geometric plane is *above* the picture for convenience, the process is exactly the same. To find the perspective of point *b* proceed as usual by raising first a perpendicular from point *b* to the plane of the picture in point *b′*, thence a straight line to the vision point *V*. Centering in point *b′* with a radius equal to the *full distance b′-b*—describe an arc of circle until it intersects both to the right and to the left of point *b′* in points *X* and *Y* respectively, on the upper limit of the picture as shown (Figure 46). From these two intersections trace straight lines respectively to the *full* distance points D. 180′-0″, both to the left and to the right of picture planes, each located in the scale of the picture, 180′-0″ from the central axis (or 3x½ of picture). At the intersection of these two lines and line *b′V* or at point *B* we will find the perspective of point *b* of the geometric plane. To reduce our operations from the two far-removed

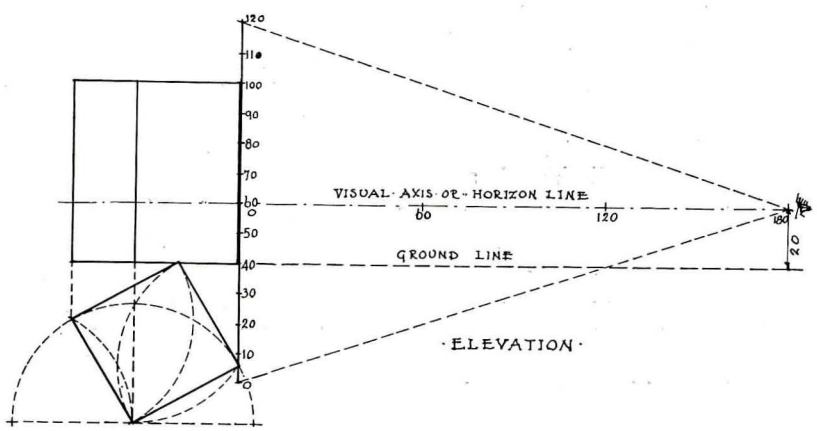


Figure 48A

picture in points $D \div 3$ respectively. Center once more in point b' with a radius equal to one-third the distance $b'b$ and intersecting the upper limit of the picture both to the left and to the right as before. From these intersections trace straight lines respectively to the two *reduced* distance points $D \div 3$ respectively and you will find that these two lines pass exactly through point B (which is the perspective of point b) as did the two lines previously traced to the full distance points, indicating very plainly that the latter are *unnecessary*. Using the same operations for finding the perspective of point d and continuing the lines aB and aD until they intersect the horizon line, we will find the two vanishing points $V\ P\ I$ and $V\ P\ II$. Tracing a straight line from point B to $V\ P\ II$ and another from point D to $V\ P\ I$, we shall obtain in point c' the perspective of point c of the geometric plan, thus completing the perspective plan $a\ B\ c'\ D$ representing in perspective the geometric plan $a\ b\ c\ d$. Consequently we find that we can eliminate the two distance points outside of the picture plane so that the diagram will be reduced to the one shown in Figure 47. However even in this case we still have one point, that is, Vanishing Point No. 2 (V P II) far removed from our plane of operations. Wishing to bring this point closer to the picture, thereby improving the facility for work in a small area, simply measure of distance X in *full* scale from the vanishing point ($V\ P\ II$) towards the picture that is convenient in each particular case and place a curve with a radius equal to this distance at this point, then using a "perspective" T-square, in which the upper edge of the blade is equi-distance from the ends of the cross arm and place the same wherever necessary to trace any one of the system of perspective lines converging in point $V\ P\ II$ as shown in Figure 47.

There is yet another area to be eliminated, and that is the geometric plane above the picture, which after times is awkward and cumbersome. This elimination is a very simple matter. It will be noticed in Figure 46 that two measuring points are found on the horizon line, at MI and MII, in the following manner: Centering in point a on the upper limit of the picture, which is at the point of contact of the geometric plane with the perspective plane; first with a radius ab and then with a radius $a\ d$, describe arcs $b\ e$ and $d\ f$ respectively, and from point e passing through point B conduct a straight line until it intersects the horizon line in point $M\ I$ or Measuring Point No. 1. Then from point f do likewise, passing through point D conduct a straight line until it intersects the horizon line in point $M\ II$ or Measuring Point No. 2. Consequently we will find the following relations: $a\ b = a\ e$ and $a\ d = a\ f$.

Once the two measuring points have been established in this way on the horizon line, the *entire geometric* plane may be *eliminated*. For example (see Figure 50). With all our points established upon the horizon line that is: the central or visual point V, the two reduced distance points $D \div 3$, the vanishing point $V\ P\ I$, the proper placing of the curve as above indicated, for vanishing point $V.\ P.\ II$, and the location of the two measuring points, $M\ I$ and $M\ II$ (Measuring Points 1 and 2) we may first proceed to find the perspective plan by marking off the required distances first to the left and then to the right of point a (or the point in contact between the geometric plane and the perspective plane) on the upper limit of the picture as shown in Figure 50. From point 4 on the left, which might represent 4 feet or any multiple of 4, conduct a straight line to measuring point $M\ I$ on on the horizon line, and it will be noticed that this line intersects line $a\ V\ P\ I$ at point B in exactly the same place as before, demonstrating again that the distance $a\ 4$ to the left of point a (on the upper limit of the picture) in the geometric plane is equal to the distance aB in the perspective plane. In the case of point 4 to the right of point a, using the measuring point No. 2, or $M\ II$ on the horizon line, conduct a straight line from this point 4 to the measuring point $M\ II$ and you will find that this line intersects line $a\ V\ P\ II$ at point D also exactly in the same place as before. The same can be done with any and all points or distances to the right or to the left of point a which may represent units in either of the two sides of the object in question, and by using the respective measuring points a specified distance in the geometric plan can be determined in the perspective plan as will be seen if tried out. In Figure 47 it will be noticed that a

(*Continued on page* 42)

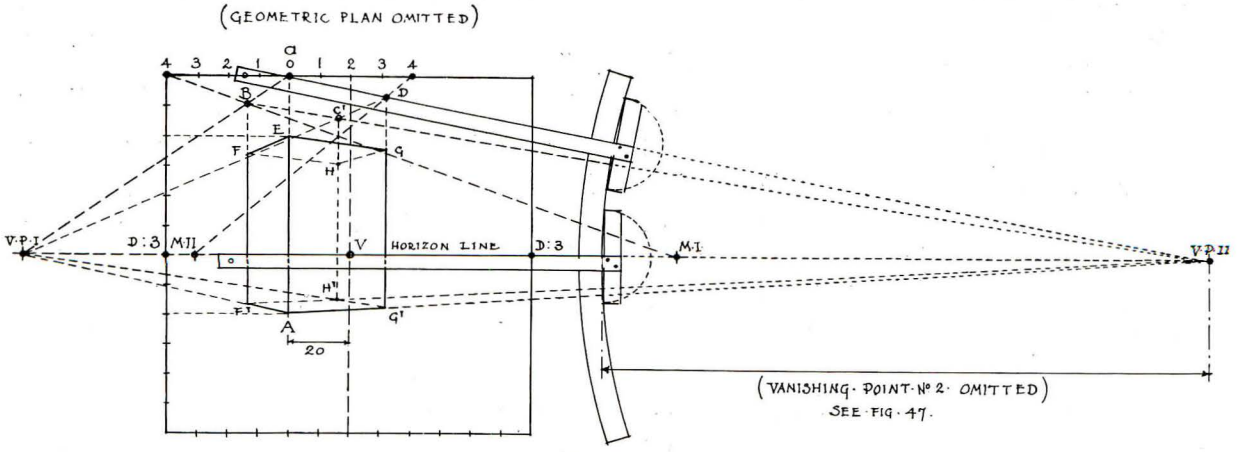


Figure 50

SKETCHING AND RENDERING IN PENCIL, PART XVII

BY ARTHUR L. GUPTILL

In this series of illustrated articles, the first of which appeared in the issue for August, 1920, the technique of pencil sketching and rendering is being taken up step by step, carrying the architectural draftsman or student through a systematic course of study which has been gradually developed and put into practice by Mr. Guptill in his classes at Pratt Institute, Brooklyn, New York City. The illustrations are not merely copy plates, but each is drawn to illustrate some principle of composition or some suggestion for technique given in the text. Although these plates are primarily intended to assist the student in freehand work, they will prove helpful as well to those making pencil renderings of subjects prepared instrumentally.—ED.

WE SHOULD not close our discussion of the rendering of large buildings without some reference to the very sketchy and often rather impressionistic type of drawing in which the architecture is treated from the point of view of the artist rather than of the architect, and which, therefore, gives special attention to the effect of the whole and not to the almost photographic representation of the architectural detail common to the work of the architect and the professional delineator. In drawings of this type, for instance, the whole is treated very broadly, some of the windows being merely suggested, perhaps, or omitted entirely, while practically all of the tiny members such as dentils are left out. Such drawings are usually more interesting than the architectural type, partly because more is left to the imagination and partly because of the absence of mechanical perfection of line. (In fact many are made entirely freehand from start to finish). Again, the accessories may be treated with greater freedom as no reason exists for suppressing them,—so all-in-all, when the artist draws architecture the results are better from a purely æsthetic standpoint than those obtained by the average architect or architectural delineator, who is of necessity usually forced to show so much detail (in order to make the design clear to the client) as to prevent the most artistic result.

Then there is another form of work in which large buildings are shown but where they become subordinate to something else. As examples of this we have advertisements of automobiles and clothing and the like, where the buildings are simply a setting or background. Here of course the greatest freedom in their treatment is permissible, the slightest suggestion of the architecture often sufficing.

So much variety is found in all this sort of work that we can hardly do more than mention it here, and bring emphasis to the fact that the outstanding difference between this and the architectural type is, as we have mentioned, the greater freedom used in the former in relation to the latter. This freedom is not confined to the technique but is found in the composition also, and in the general treatment, moonlight or evening scenes, sunsets, rainy day effects and the like being popular. Even though these are not common in architectural work, it would be well for the student of architectural rendering to study all this sort of thing, as much can be learned from it which is adaptable with modifications to his own problems.

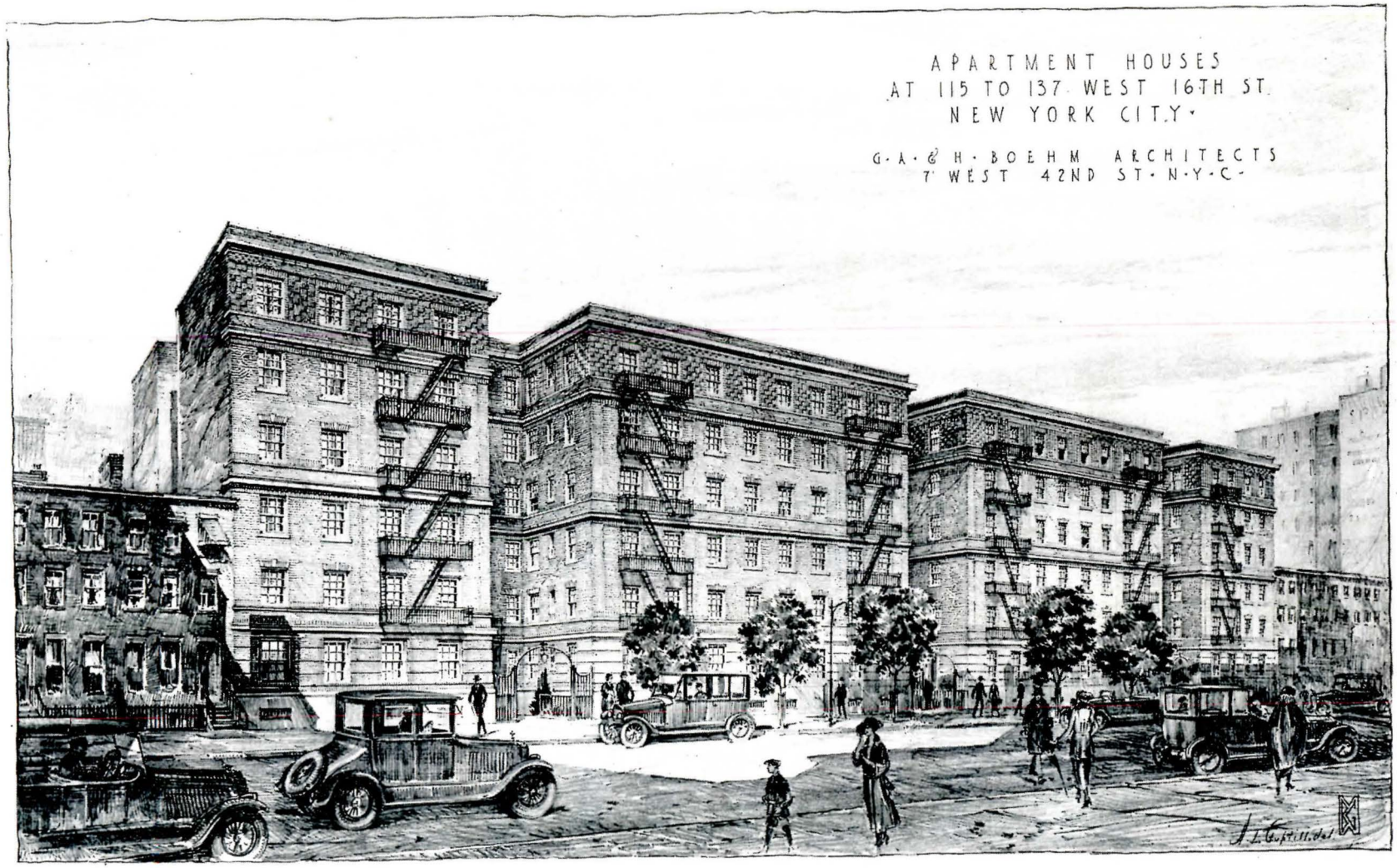
Whether the student desires to better his ability to do architectural renderings or whether it is this other work which interests him most, there is no better training in either case than to sketch directly from buildings. It is by making many such sketches as that by Otto F. Langmann in the October issue of PENCIL POINTS (Plate XXXIX) from the big buildings themselves that one can get a strong grasp on how to handle them.

Now of these various types of drawings our illustrations have been selected from those of an architectural nature. Figure 40, page 6, of the November issue, is a very quick sketch of a proposed building done on tracing paper with a lithographic pencil. Unfortunately this reproduction is reduced from so large a drawing that the values show stronger contrasts in many ways than on the original, making the whole lighting seem somewhat unnatural and artificial. It will serve to show, however, that such a drawing, even though hastily done without preliminary study, conveys the general impression of the proposed structure. Plate XLVI in this issue, a pencil rendering, by Chester B. Price, of a business building, is an excellent example to study.

Figure 41 in this issue was done at much smaller scale (⅛-inch to the foot) with ordinary graphite pencils. Both of these illustrations show comparatively simple buildings, simple indeed so far as general mass is concerned, and in presenting them we wish to point out a truth not commonly recognized by the beginner who attempts this sort of work, and this is that it is more difficult to get an interesting representation of simple masses of this type than of buildings having towers or domes or pediments or, in fact, any irregular shaped features. Even the outline drawing of a domed structure is full of interest before the rendering is started, whereas the block forms or skeletons of such buildings as we are picturing here seem very commonplace, which means that greater care must be given to the rendering. Choose, then, for your early practice, structures with domes or towers which will form interesting silhouettes and you will find it less difficult to obtain good results, saving the more simple forms for later practice. This seems strange, perhaps, but it is true.

In Conclusion

"If one desires to learn to draw, let him draw and draw and draw." The author wishes that this message might remain fixed in the mind of every reader of these articles, for even those who have had the patience to follow them through from the very first in August, 1920, to this the concluding instalment, will profit little by them unless such ideas as have been acquired are put to practice before they are forgotten, as it is only by drawing



Sketching and Rendering in Pencil. Figure 41. Apartment Houses at 115 to 137 West Sixteenth Street, New York City, G. A. & H. Boehm, Architects. Rendering by A. L. Guptill. See text beginning on the opposite page.

over and over again until such assimilation has taken place as will enable one to make unconscious use of them, that they will prove of more than partial and transitory value.

Yet it is not enough to draw, without plan or reason, for one gets even through faithful practice far less gain than should be rightfully his, unless he follows a logical system, adopting some scheme which seems best suited to his individual requirements. For what might be logical for one might be illogical indeed for another. There are students, for instance, so imbued with earnestness and enthusiasm, so passionately fond of drawing, that they seize with avidity every hint or suggestion which is offered as an aid to the development of their talent, and who at the same time possess enough common sense to realize their own shortcomings and weaknesses and to direct their own energies to the best advantage in their attempt to overcome them, so planning their study and practice that they move on step-by-step up a road of steady progress. Such men are also occasionally so fortunate as to have the somewhat rare ability of judging correctly the merits of their own work, being able to view it impartially from a wholly unbiased standpoint, acting as their own critics with considerable success.

Needless to say men of this type are scarce, however, the average student falling into one or another of three classes, the first including such as either underrate their own ability or are easily disheartened, the second and largest class consisting of those having a fair amount of ability and confidence coupled with a willingness to work, and with an excellent attitude towards the acceptance of instruction and criticism, the third being made up of a few such vain and self-conceited individuals as hold the egotistical opinion that their work is the acme of perfection, ignoring with thinly masked ridicule the suggestions of their instructors and fellow students, seemingly ignorant or careless of the fact that their attitude of antagonism is deterrent to their own progress.

Now the student of this first class needs a guiding hand and word of encouragement, for once he gains a reasonable amount of confidence in himself and his own ability his advancement is frequently rapid. Such a student should by all means join a class or work under a critic or patron, as otherwise he may lack the necessary incentive to inspire him to the achievement which is possible, and neither should he be discouraged by adverse criticism. Especially if one is self-conscious and supersensitive he should strive to become so thoroughly immersed in his work as to grow forgetful of self and unmindful of unfavorable comment or the gibes of the thoughtless.

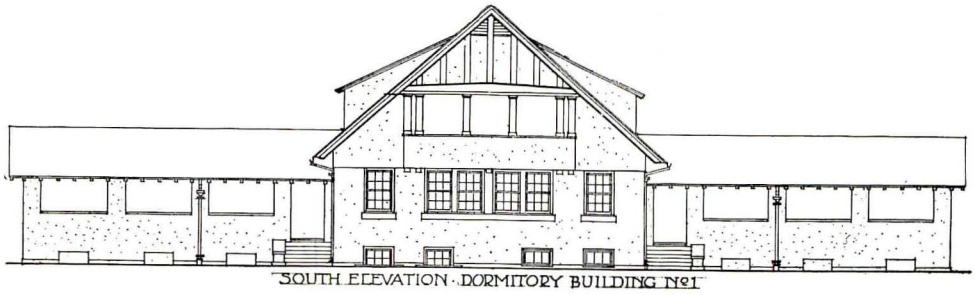
Students of the second class, which includes a large percentage of all the men interested in such drawing, should put themselves under instruction also, either attending school (many night schools offer courses for those to whom day attendance is impossible) or, if no organized classes are available, gathering as a group to form a sketch club, meeting once a week or so to compare work and receive criticism from each other or, better yet, from some capable critic engaged for the purpose. Or if it seems impractical to join or form a club or class it is all the more important to work under an able teacher. As far as the architectural draftsman is concerned this should be easy, especially in the larger cities, as capable men may be found in nearly every office, glad to give their services either gratuitously or for reasonable compensation. The choice of a teacher or critic should not be made hastily, however, for it is not enough that he be a skilled artist, for many who draw exquisitely well cannot tell how they do it or what is wrong with another's work. Again some teachers are so dogmatic and opinionated as to try to force their own ideas upon all their students rather than to aid in developing the individuality of each. So make your choice with care, but once you go to a teacher, put yourself under his direction unreservedly, and even though you sometimes fail to agree with him or with his corrections or criticisms, try to get his viewpoint, to see from his eyes, as his vision may be broader than your own. It is not always wise to remain under the instruction of one man for too long a time, however, as there is sometimes a tendency to mimic his style, but it is better, instead, to change after a while, gaining new inspiration and help by the fresh contact.

But we are digressing a bit from our consideration of the three various classes of students so let us return to discuss the third, the conceited lot. Perhaps the less said about them the better, for such men are well-nigh hopeless unless they can be made to see the light, and this is not easy if they are confirmed egotists. But some men are egotists only so far as their drawing ability is concerned, and for these there is hope. This condition is sometimes brought about because friends or members of a student's family or possibly teachers have in their ignorance or in their desire to flatter, heaped unwarranted praise upon him, causing him to arrive at false conclusions as to his ability and knowledge. If such a man joins a class or sketch club, however, the truth will generally be forced upon him sooner or later that his work, when compared with that by others, lacks the perfection which he imagined it to possess.

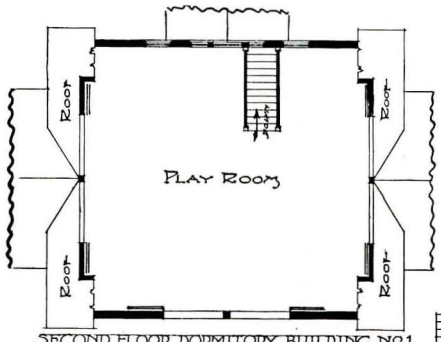
We should not go on without some mention of the man who earnestly desires to draw but whose efforts bring him little reward. Such a person should try over and over again. Then if after repeated attempts improvement seems as far away as ever, failure may be quite properly attributed to lack of natural ability, in which case it is doubtless better to give up the hope of ever becoming more than mediocre, seeking perhaps to win greater success in some other direction, for even the man of real ability has no easy task to gain recognition. But do not let discouragement deter you from repeated trial, for many who show little promise in their early work persevere until their results show amazing improvement.

The reader can readily understand that in consideration of these many types of men reached by this series of articles, men at various stages of prog-

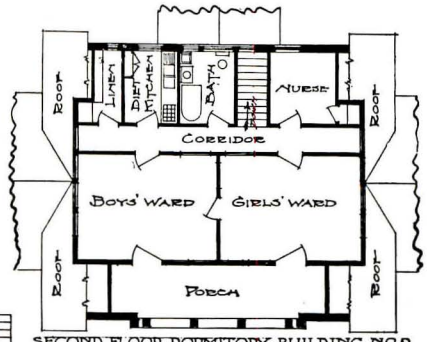
(*Continued on page* 41)



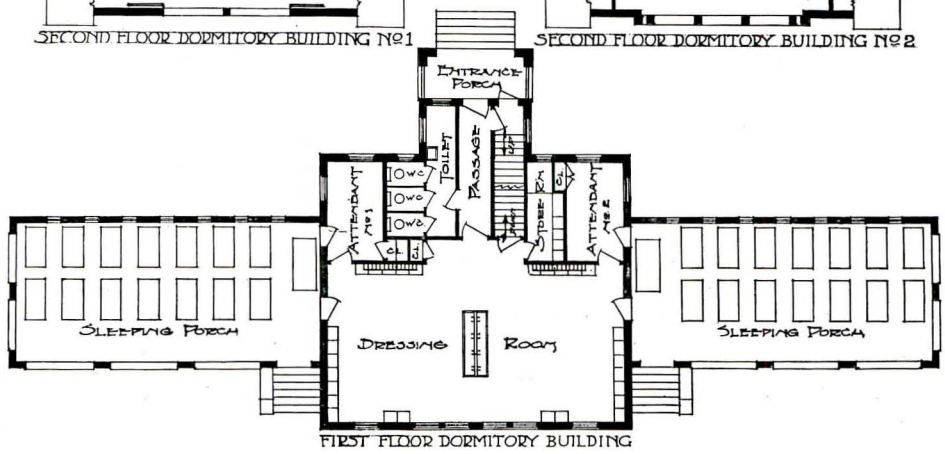
SOUTH ELEVATION · DORMITORY BUILDING Nº1



SECOND FLOOR DORMITORY BUILDING Nº1

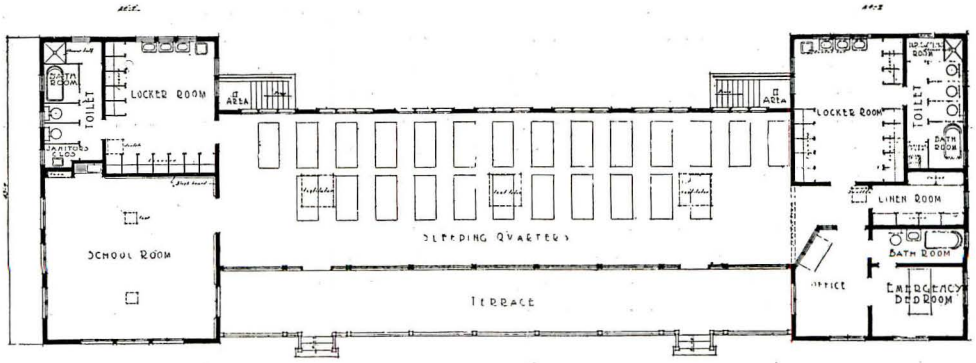


SECOND FLOOR DORMITORY BUILDING Nº2



FIRST FLOOR DORMITORY BUILDING

Dormitory Building, Preventorium for Children, Farmingdale, N. J. Designed by Dr. Hermann M. Biggs. Scopes & Feustmann and Walter W. Judell, Associated Architects. Capacity Twenty-eight Children and Two Attendants.



Open-air Cottage for Children, Chicago Tuberculosis Sanatorium, Chicago, Ill. W. A. Otis & Edward H. Clark, Architects. Capacity Twenty-five Patients.

THE PLANNING OF CHILDREN'S PREVENTORIA

BY T. B. KIDNER

The practical considerations in the planning of a type of institution, the requirements for which are not generally understood, are pointed out in this article by an authority on the subject. Mr. Kidner is Institutional Secretary of The National Tuberculosis Association. That organization maintains an advisory service for architects. Valuable information and plans are available through this service—architect's designs are criticized and there is no charge excepting where the advisor must travel. The educational work of the Association derives support from the annual Christmas seal sale.

WHILE the tuberculosis sanatorium will probably continue to form the chief of the institutional methods of combating tuberculosis, increasing attention is being given now-a-days to the provision of several other types of institutions to be devoted to the same general cause. For example, great efforts are being made to establish special industrial centers and workshops in which persons who have been restored to comparative health because of the "arrest" of the disease by treatment in a sanatorium can earn their living under conditions which may help to prevent the breakdowns which have all too often followed the resumption of occupation under ordinary conditions.

While, however, the problem of the after-care of the tuberculosis sanatorium graduate is receiving great consideration in this and other countries today, even more attention is being given to methods of prevention amongst children who are potentially tuberculous, and for the care and treatment of children who are suffering from the disease in an active form.

The reasons for the importance now ascribed to methods for the care of children are found in the results of the experience and research of tuberculosis specialists which indicate that the majority of people become infected with tuberculosis in childhood, although in many individuals, the disease may never develop into an active clinical form.

Several types of institutions for the care of children have been devised. For children suffering from active clinical tuberculosis, there are the special wards in general and children's hospitals, and the children's unit in the tuberculosis sanatorium.

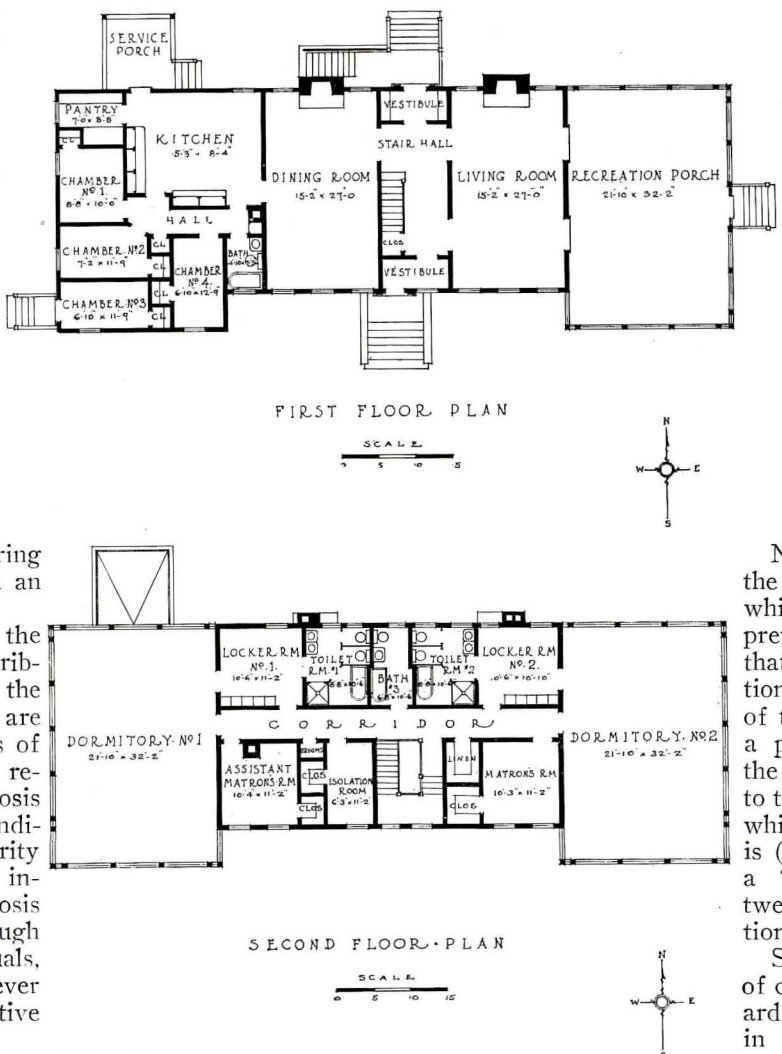
For the care of children who show a positive reaction to scientific tests, but are not yet suffering from the disease in an active, clinical form, there has been devised what is known as the "preventorium." Children who have been exposed to infection from the disease or are sub-standard in health and likely to develop it, are also cared for in preventoria.

Doctors, nurses and social workers are continually finding in the crowded homes of tuberculous patients in the poorer quarters of our cities children who are in constant peril of infection. It is impossible to safeguard such children by any measures which can be undertaken in or for the homes and hence the need for institutions where they can be entirely removed from infection and their resistance built up.

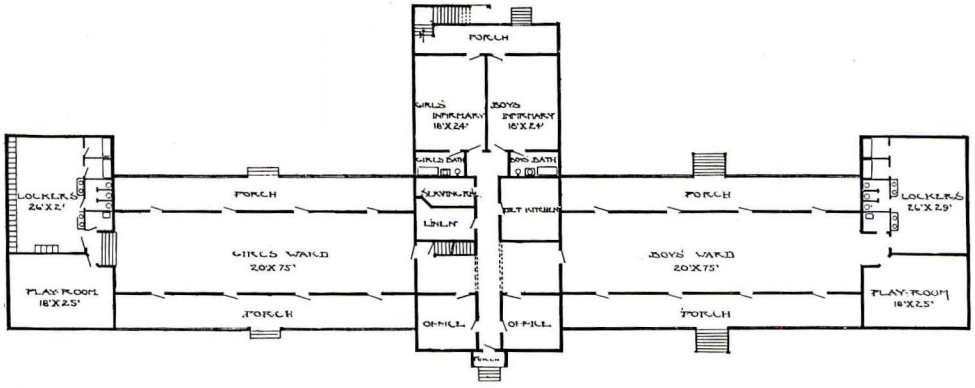
Next in order comes the open-air school, which differs from a preventorium chiefly in that it is a day institution to which children of the type admitted to a preventorium go in the morning and return to their homes at night; while the preventorium is (as the term has it), a "twenty-four hour, twelve months" institution.

Still another method of caring for sub-standard children is found in the "open-window room," of which one or more should be pro-

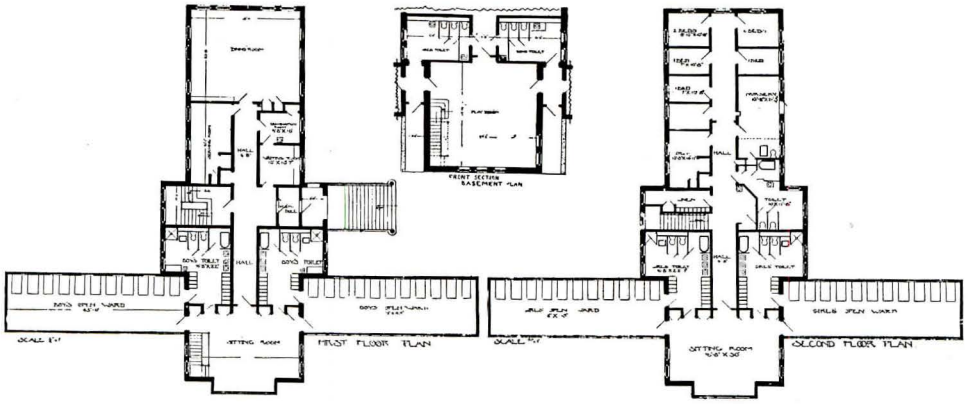
(*Continued on p.* 39)



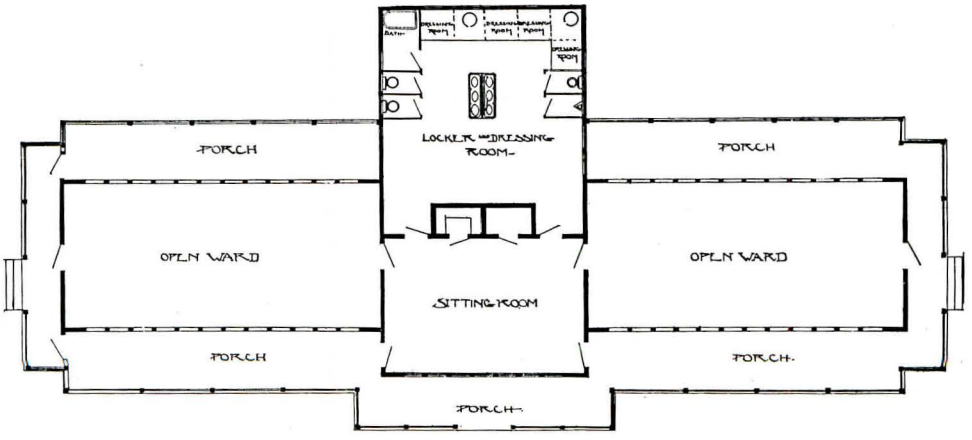
Ridge Farm Preventorium, Deerfield, Illinois. Capacity, twenty-seven patients. W. A. Otis and Edwin H. Clark, Architects.



Children's Pavilion, Westfield State Sanatorium, Westfield, Mass. E. C. & G. C. Gardner, Architects. Capacity Fifty-two Patients.



Plans of Children's Ward, Boston Consumptives' Hospital, Mattapan, Mass. Maginnis & Walsh, Architects. Capacity Fifty-four Patients.



Girls' Pavilion, Westfield State Sanatorium, Westfield, Mass. E. C. & G. C. Gardner, Architects. Capacity Thirty-two Patients.

PENCIL POINTS

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AMERICAN ACADEMY IN ROME.

FROM a letter written at Rome, Oct. 3, by Mr. Gorham P. Stevens, Director, to Mr. C. Grant La Farge, Secretary of The American Academy in Rome, we quote the following:

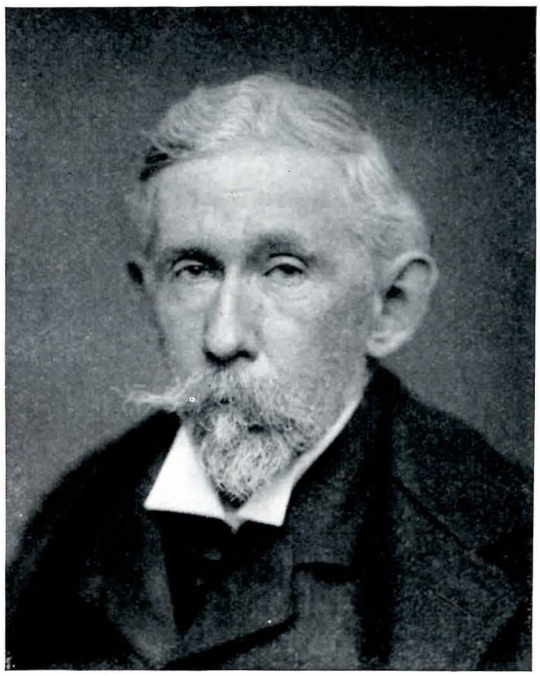
"The new Professors and their families, and the new students of both schools, have all safely arrived in Rome and are gradually getting settled in their various quarters. Mr. Curtis crossed with a party of five of them and was of great service to them in landing at Naples and in finding their way to Rome and the Academy—this is not an easy undertaking for some people who have never been in Europe.

"Landscape Architect Lawson writes me from England that he has made over five hundred photographs during his recent travels in that country. He is going to send me a map of England with the places he has visited marked upon it, so that future students at the Academy may profit by his extended tour. Architect Chillman is at work upon a drawing of the Palladio's Church Il Redentore at Venice. Sculptor Jones has practically finished a copy—(six feet in diameter)—of the central motive of Pinturicchio's ceiling in the Borgia Apartments; Painter Ciampaglia has colored it for him. This will make an excellent document for Jones to have in the future. Painter Lascari is hard at work upon a decoration in mosaic. Architect Smith has practically finished his restoration of the Zeus Temple at Olympia, Greece. Sculptor Cecere has his fountain figure well advanced; it has come out especially well. Painter Ciampaglia has finished his copy of a map in the Vatican and is off travelling.

"Mr. Oxhandler, the Fellow from Columbia, has been extremely active, having thoroughly measured the Cancelleria, the Bramante's Tempietto and the Palazzo Massimo, all in Rome. We have had applications for residence from a Cresson Fellow in Sculpture, a Cresson Fellow in Architecture and a Fellow in Painting from the Boston Art Museum. Mr. Reagen, the Le Brun Fellowship holder, is likewise in town. Professor Fairbanks has taken Mr. Rich, one of the competitors of this last year in Architecture, into his Villa Bellacci as a guest.

"Mr. McKim's bust (modeled by Albin Polaseck, F.A.A.R.), which Mr. Mead presented to the Academy, has been cast and is now placed in the Library where it looks extremely well.

"The various portions of the fountain which Mr. Paul Manship, F.A.A.R., modeled for the court-yard of the Academy, have arrived and are being put together. Likewise we are preparing to place the cypress trees and the box plants in the court-yard, which Mr. William Kendall, presented. We are going to have a wonderful court-yard before long.



JOSEPH PENNELL.

JOSEPH PENNELL needs no introduction to those who are interested in drawing, but a few of the facts concerning his career may be noted. Mr. Pennell was born in Philadelphia, July 4, 1860. He studied at the Pennsylvania Academy of the Fine Arts and the Pennsylvania School of Industrial Art. He has been awarded innumerable medals at expositions in Europe and in this country. In addition to his pen-and-ink drawings, etchings and lithographs, his work includes a number of important books. He was also the joint author, with Mrs. Pennell, of the "Life of James McN. Whistler" and of "The New Journal of Whistler." His work done during his long residence in London, his illustrations for books by many of the best writers, his series on the Panama Canal, his war industries series, and his series of etchings of New York's tall buildings are probably the best known. Mr. Pennell is actively engaged in his work, both artistic and literary, and is constantly contributing from his rich store of experience to the enjoyment and knowledge of those who appreciate works of art and are interested in the lives of great artists and literary men.

PERSONALS

ANGELO B. M. CORRUBIA AND GALE E. HENDERSON have formed a partnership for the practice of architecture under the firm name of Corrubia & Henderson, at 119 North Seventh Street, St. Louis, Mo.

FREDERIC C. HIRONS of the firm of Dennison & Hirons, Architects, recently returned from a trip abroad. He visited France and Italy and stayed for some time at the French Academy in Rome.

A. D. R. SULLIVANT, formerly associated with Hoppin & Koen, and FREDERIC M. GODWIN have formed a partnership for the practice of architecture under the firm name of Godwin & Sullivant, with offices at 350 Madison Ave., New York City.

ALFRED L. BROWN has opened a studio at 17B Irving Ave., Atlantic City, N. J., for the rendering of perspectives and the making of technical illustrations and reproduction drawings.

ROLLIN C. CHAPIN, Architect, has removed his office from 55 South 8th Street to 1624 Harmon Place, Minneapolis, Minn.

QUERIES

In this department PENCIL POINTS *will endeavor to answer questions of general interest pertaining to Architecture and allied arts, giving the best available information from authoritative sources. We desire that you feel free at all times to make use of this service, inviting your co-operation in making the department both interesting and valuable. Should you desire an answer by mail, enclose stamp for reply. Address queries to The Editor,* PENCIL POINTS, *Metropolitan Tower, New York City.*

Question—I am planning a modern fireproof hotel building which will have all room and corridor floors finished in cement. The owner intends to carpet the entire floor, in rooms at least. I believe it is the practice to run a wood strip around the floor near the walls, flush with the finished cement floor and secure carpets to it. Am I right? What size should the wood strips be? What is the best method of securing the strips to the concrete slab? Is there a special device to attach carpets to strips so they may be easily removed for cleaning and replaced? How are carpets protected at doors? W. A. B. *Answer*—The strips of wood may be ⅞ in. thick, about 1¼ in. wide at the top and somewhat wider at the bottom, so that they will hold in the cement floor like a dove-tail. Tacks with heads like snap-fasteners can be had at the hardware stores for attaching carpets. This makes it possible to take up the carpets for cleaning without drawing out the tacks. To protect the carpets at the doors the saddle should be made with a vertical edge ¼ in. high for the carpet to butt against, not worked down to a thin edge. The door trim should be so detailed as to allow the carpet to come against the edge of the saddle.

Question—I wish to ask you, if you could suggest a good list of books on the subject of refrigeration,—the subject to be covered in all its branches. R. B. B. *Answer*—We would refer you to books by the following authors on this subject: H. J. Macintire, J. Wallis-Taylor, Haven & Dean, and to the "Compendium of Refrigeration," by J. E. Siebel.

Question—Will you please suggest books on the following subjects suitable for the use of Architects, Students, etc., namely: Details of Gothic architecture; details of Classic architecture; books on landscape architecture; also a book on architectural detail similar to the work of John Vredenburgh Van Pelt in PENCIL POINTS? A. W. R.

Answer—Among the large number of books of details two of the most useful are Pugin's "Gothic Architecture" and Buhlmann's "Classic and Renaissance Architecture." Good books on landscape work are: "The Art of Garden Design" by Mawson, "Gardens of Italy" by Bolton, and "Gardens for Small Country Houses" by Weaver.

Question—Will you inform me on the following points in the design of the seats in concrete stadiums? Do the spectators sit directly on the concrete? What is the spacing of seats? What are the proportions of the steps for seats? *Answer*—In some of the stadiums the spectators sit on concrete seats, but in others the seats are of wooden slats supported on concrete at intervals. The usual spacing of seats may be taken as three feet from back to back. The steps must be proportioned throughout for each special case by studying the stadium in section, laying out the steps in such a way that the sight lines will indicate that the occupant of each seat will have an unobstructed view, by the application of the same principles used in laying out the seating of a theatre.

Question—What are the methods of using "scratch board," which I understand is employed by illustrators in their work? *Answer*—In using scratch board the drawing, or a portion of the drawing, is done in black on the white scratch board, and the blacks broken up by subsequent scratching with a lithographic scratcher which exposes the white material underneath. For instance, in drawing a portrait the face may be drawn in pen-and-ink and the lines softened where one wishes by scratching across them at even intervals, breaking them up into dots. The coat may be painted in solid black and given texture and modelling by scratching away the black with the needle, using short strokes of suitable shape. When a surface of any considerable area, say, from a few square inches upward, is to be filled in with black in this way it is well to apply the black with a brush. India ink ground from the stick, or ivory black moist water-color, the kind that comes in tubes, is satisfactory for this purpose; the latter is the more convenient to use. The lithographic scratcher looks like a lead pencil but has a metallic point which may be flat or round and may be sharpened to suit the special requirements of the work in hand. Another material similar in a way to scratch board has black cross lines, texture effects, dots, etc., printed on it in black. It is made in a considerable variety of patterns. By scratching on this kind of board the black is removed as desired, leaving the picture in lines or areas of the texture.

LE BRUN TRAVELLING SCHOLARSHIP COMPETITION.

THE Executive Committee of The New York Chapter of The American Institute of Architects, as trustees of the travelling scholarship founded by Pierre L. Le Brun, announce a competition for the selection of a beneficiary. The program will be issued about January 1, 1922, calling for drawings to be delivered about March 1, 1922. All those wishing to enter the competition should arrange at once for nomination by a member of The American Institute of Architects. Nomination blanks can be had from the secretary of any Chapter A. I. A. or from the Le Brun Scholarship Committee, 215 West 57th Street, New York. Nominations should be sent so as to be received before January 1, 1922, to Le Brun Scholarship Committee, 215 West 57th Street, New York. Requests for information in regard to this competition should also be sent to the above address.

THE PLANNING OF CHILDREN'S PREVENTORIA.

(*Continued from page* 35)

vided in every large school.

Summer camps also play an important part in the care of children who are weak and need special care to enable them to build up resistance to disease.

Joined with each of these types or methods of care is, of course, the constant help afforded in the homes of the children by the school nurse, or a visiting nurse provided by some other organization.

While all these various institutions and methods are important, none is more useful than the preventorium, of which institution the salient features will be indicated in these notes.

Broadly speaking, the problem before an architect who is called upon to design a preventorium is to provide a building in which the children can be given the essentials for healthy living: viz., fresh air, good food, baths, proper rest and sleep, play and recreation; all in an ordered, regular, habit-forming way, in a spirit of happy comradeship between the staff and children.

Of course, education cannot be neglected, and provision must be made for regular school instruction. In point of fact, this requirement, while mentioned last, may well form the basis on which the designer may begin his plans; as the number of children which can be cared for by one teacher will give the unit of design.

In a large centre of population, it may be feasible and economical to provide a preventorium in which several hundred children can be accommodated, and a regular grade-school organized. The chief demand, however, is for institutions to accommodate from forty to one hundred children.

But, whether the preventorium be designed to accommodate forty or several hundred children, no class should have more than twenty-four pupils; for, because of their poor health, the children in a preventorium are often backward in their studies and require special, individual attention and instruction. Furthermore, in the smaller institutions, there will be the additional difficulty of mixed grades, and in such cases the classes should not have more than twenty pupils.

As in the case of ambulant patients in a regular tuberculosis sanatorium, the most convenient type of construction is the pavilion of not more than one story for the sleeping quarters, although the service portion may be, and often is, of two stories and a basement.

In general, the plans of existing preventoria resolve themselves into three types:

(a) A central portion containing the toilet, lavatory and dressing room facilities, the play room, attendant's rooms, etc., with wings on each side of it consisting of open wards for the sleeping quarters, (e. g., The New York City Preventorium at Farmingdale, New Jersey, and the smaller of the Children's Pavilions at the State Sanatorium at Westfield, Mass., and others.)

(b) A central portion consisting of a long open ward for sleeping quarters, with an enclosed wing on each end in which are found the toilet, lavatory and dressing room facilities, an emergency bedroom, a school room and attendants' room. The open ward has along its front a covered terrace which serves as a play room in rainy weather. (e. g. The Open-Air Cottages for Children, Chicago Municipal Sanatorium.)

(c) A combination of types (a) and (b); having a central portion with an open ward on each side and a wing on the end of each ward; as in the larger of the Children's Pavilions at Westfield State Sanatorium, Westfield, Mass.

In this pavilion, what may be termed the general service rooms are in the central portion; each wing containing a large dressing room with individual lockers, bathing and toilet facilities, and a play room. One open ward, (about 20 beds) and its adjoining wings are devoted to girls; the other side to boys; the building having a total capacity, including two "Infirmary Rooms," of 52 beds.

While the one-story building is recommended, two-story buildings are not barred, and some good examples exist; such as the Ridge Farm Preventorium at Deerfield, Illinois. (See illustration on page 35)

(*Continued on page* 41)

WANTS

Advertisements in this column five cents a word, none less than $1.00. Remittance must accompany order.

DRAFTSMAN, Junior, student at Columbia evenings, desires position in office of architect. Salary no object. Pencil Points, Box 31.

BACK ISSUES OF PENCIL POINTS

WANTED—To communicate with someone having copies of PENCIL POINTS from Aug., 1920, to Jan., 1921. Will pay $3.00 for six issues. Herman Hunter, 604 South Emporia, Wichita, Kan.

TO ARCHITECTS—PENCIL POINTS reaches more architectural draftsmen than any other journal. If you require the services of a draftsman you will obtain best results by using this column in PENCIL POINTS.

TO DRAFTSMEN—Every architect in the country knows that PENCIL POINTS is the draftsmen's journal. If you are looking for a position, PENCIL POINTS is obviously the journal in which to advertise.

SCHOOLS.

THE SPECIFICATION DESK

A Department for Specification Writers

PLUMBING SPECIFICATION, PART III.

By William C. Tucker

Pipe Expansion

Due allowance shall be made for the expansion and contraction of all pipe. Expansion loops shall be installed upon hot and circulation risers. Branches from hot risers and mains, shall be taken off with fittings in such a manner as to prevent undue strain. All hot or circulation pipes buried under marble tile or cement floors shall be surrounded by a loose-fitting galvanized sheet-iron casing well wired in place before flooring is laid to compensate for expansion and contraction and avoid cracking flooring.

Insulation

All hot and circulation mains, risers and branches throughout the building shall be insulated with one inch asbestos-lined solid wool felt sectional insulation.

All exposed cold water pipes, fire lines, and drips in basement and about house tank, shall be insulated with one inch tar-lined solid wool felt sectional insulation, also all cold water pipes exposed upon toilet room ceiling. in chases, in shafts or in other locations where they may be liable to "sweat." Filters, and suction tank including the bottom, should be insulated with two thicknesses of tar paper and two thicknesses of one inch hair felt. Steam end of steam house pump, air compressor, hot water heater and tanks shall be insulated with 1½ inch 85% magnesia blocks followed by one-half inch coating of asbestos cement. Ice water piping of the refrigeration system shall be insulated with 1½ inch cork "ice water" covering; and have moulded fittings finished with mineral rubber. All joints shall be filled with brine putty. The cooling tank shall be insulated with three inch cork board moulded to fit curvature; bottom shall be completely insulated, and insulated free from supports. Insulation of tank shall be provided with lagging rings, and tank shall be lagged with ⅞ by 2½ inch beaded ash with heavy nickel plated brass bands. All insulation shall be securely wired in place with non-corrosive wire.

Steam ends of pumps and compressors shall be incased in Russia-iron lagging with polished spun-brass heads and polished brass trimmings with openings for all valves. All exposed insulation, including that of piping, filters, suction tank, hot water heaters, tanks, etc., shall be encased in 8-ounce canvas duck neatly and securely sewed in place.

Painting

All work shall be cleaned free from scale and grease immediately before painting. Paint all pipes in contact with earth, cement, concrete or under floors, two coats of asphaltum. All exposed pipes should be painted with two coats of boiled oil and lead. The inside of the house tank and suction tank shall be painted three coats of metallic paint; outside one coat same material. The pumps, motors, and other mechanical apparatus shall be painted three coats of engine enamel, rubbed down to a smooth finish and lined with gilt stripes. Paint the traps of all lavatories, sinks, slop sinks, and laundry tubs; the supplies to all lavatories; and the outside of all slop sinks two coats of boiled oil and white lead followed by two coats of white enamel carefully applied so that no brush marks may appear. All exposed insulation shall be given one coat of sizing and two coats of enamel paint. Paint shall be of color as directed and shall be applied by experienced labor. All gas piping, excluding threads and fittings, immediately after installation, shall be given one coat of approved enamel paint, and final coat after testing including threads and fittings.

PUBLICATIONS OF INTEREST TO THE SPECIFICATION WRITERS

Any publication mentioned under this heading will be sent free, upon request, to readers of Pencil Points *by the firm issuing the publication.*

The G & G Telescopic Hoist—Gillis & Geoghegan, 548 West Broadway, New York, have just issued a new twenty page 8½ x 11 inch, two-color catalog. It is fully illustrated with photographs of actual installations of G & G Telescopic Hoists, as used for handling ash cans, barrels, trays and other loads. It also contains two forms of specifications for each model, one a very short form and another which describes the various parts of a complete telescopic hoist installation.

Tiles, Publication No. K-300. Basic Specification for Tilework, and Related Documents—A comprehensive and exhaustive document covering complete basic specification for tilework with explanatory notes to the architect, tile contractor and general contractor. D. Knickerbacker Boyd, of Philadelphia, acted as consulting architect in the preparation of this basic specification document. Size 7½ x 10½, No. of pages 38. Issued by The Associated Tile Manufacturers, Beaver Falls, Pa.

Architectural Varnishes, Stains, Fillers and Enamels, With Specifications—An architectural reference book containing concise, practical information from which specifications may be written on varnishes, stains, fillers, and enamels for exterior and interior finishing, floor finishing, church and school seat finishing and marine work. Also specifications for refinishing old work. The book is issued in attractive form, mailed flat, contains 20 pages of matter. Issued in standard filing size, 8½ x 11 in., by Standard Varnish Works, 90 Cedar Street, New York City.

Painting Specifications—Specifications covering new woodwork, old work—repainting; new work, plaster, cement and concrete; iron and steel; repainting iron and steel; galvanized iron and steel; galvanized or zinc coated iron; copper and zinc flashings; tin roofs, etc.; interior—complete specifications for all kinds of interior work. 14 pp. fully indexed. 8½ x 11 in., published by New Jersey Zinc Co., 160 Front St., New York.

Zinc Spouting—Four booklets dealing completely with this subject. Detail drawings and other useful data. Illustrations of finished work. Tables of costs, charts, etc. Published by New Jersey Zinc Co., 160 Front street, New York.

Specifications for Cast Iron Soil Pipe and Fittings—A useful booklet issued by the Central Foundry Company, New York City, size about 6 x 8 in., 30 pages. It contains soil pipe specifications in detail on quality dimensions, fittings and other matters of importance and includes useful tables. There is also much useful soil pipe data including diagrams and tables.

Mar-Sla, "Stone for Building"—For the information of the specification writer, this bulletin treats of Mar-Sla for lavatories, shower stalls, and stairs, and gives notes of its strength, hardness, etc. Published by The Mar-Sla Manufacturing Co., Youngstown, O.

Mar-Sla for Laundry Trays—Illustrated folder showing laundry trays, with notes on types and sizes. These folders, size 8½x11 in., are published by the Mar-Sla Manufacturing Co., Youngstown, Ohio.

The Gospel of Lacquer Efficiency—To provide lacquer users with information concerning brush, dip, spray, for various types of products, equipment necessary, etc., the Egyptian Lacquer Manufacturing Company, 152 Front St., New York, have published this booklet, that will be found of interest by the architect who has the problem of preserving large metal surfaces. The booklet numbers 124 pages and measures 5x7 in.

SKETCHING AND RENDERING IN PENCIL

(*Continued from page 33*)

ress and development, too, ranging all the way from beginners with their first problems to men professionally engaged in this sort of work, it is impractical to lay down definite courses of study here. Disappointment has perhaps been felt by some that more actual problems have not been given, but it has seemed best, under the conditions, to offer, instead, general suggestions, hoping to make the student see what things it is essential for him to know, and to point out the way for acquiring such knowledge.

We have touched on the selection of drawing materials, the choice of subjects to draw and how to begin. We have written on such matters as individual style and method, and on different ways of obtaining results in outline and light-and-shade and flat and graded tones, and have devoted considerable space to the important subject of composition with attention to unity and balance. We have discussed working from the object, from the photograph and from nature, and have covered in special articles the representation of buildings both small and large, including exteriors, interiors and street scenes, while the treatment of their details and accessories has been broad, too, offering suggestions for the handling of furniture and draperies, doors, windows, chimneys and all these smaller parts. Neither have clouds and trees and water and the like been neglected, nor have people and animals as used in connection with building representation. Then to round out the subject we have opened a large field for exploration in the recent articles on decorative drawing and on uses of tinted papers, colored pencils, pencil used in connection with other media, etc., —a field in which the student may wander far, constantly finding new pleasure and delight.

So with all this as a background we must leave the reader to map out for himself the course which it seems best for him to pursue, and this, as we have explained, depends wholly on his present stage of progress and his individual requirements. Let each man study himself and his needs. If he lacks the ability to sketch objects in correct proportion let him spend considerable time in drawing directly from objects themselves thus giving special attention to this common weakness. In fact too much emphasis cannot be given to the importance of such work, especially for the architectural student who so often lays out his proportions instrumentally and to scale that to do so by the eye in a freehand manner proves especially difficult. Yet architectural students are sometimes inclined to scoff at object drawing, being of the erroneous opinion that cubes and cylinders and books and dishes have little to do with architecture.

But whether one draws from the geometric solid or still life or cast or figure, truth is the thing to be sought, for a knowledge of truth is the foundation for all the rest. In such studies do not put too great importance on individual style or method but work in the way which produces the most truthful results.

So in closing let us repeat, then, that each man should study his needs and straightway commence to correct his faults and overcome his weaknesses, seeking instruction, inviting criticism, comparing results with drawings by others and so striving constantly for greater perfection, remembering that one never reaches the point where it is not possible for him to advance still further,—and let it be remembered, too, that even though one fails to acquire exceptional skill, whatever of dexterity is gained will always prove a source of pleasure and satisfaction.

THE PLANNING OF CHILDREN'S PREVENTORIA

(*Continued from page 39*)

For an institution of twenty to twenty-five bed capacity, the writer's preference is for a one-story building of the type used for the Children's Units at the Chicago Municipal Sanatorium, but in most cases it will be found necessary to add a kitchen and dining room. This was not necessary in the Chicago institution, which is large enough to maintain a special dining room for children, in which all the children not confined to bed take their meals.

It is better, however, not to locate a preventorium on the grounds of a tuberculosis sanatorium, but in cases where it is necessary to do so, the children should always take their meals quite away from the patients,—preferably in the preventorium building itself.

It would be necessary to provide a cross partition about the centre of the open ward, to divide the sexes. The partition need not extend to the ceiling. A door should be provided for the use of the attendants.

In designing such a building, it may be necessary in some cases to consider the possibility of future extensions in the form of another wing; which would make the final plan like the Westfield type. See illustration.

In most preventoria, infants are not received; provision being chiefly made for children of from four to fourteen years of age. There are, however, successful institutions for very young children; in fact some prominent physicians hold that the children of tuberculous parents should be separated from them as soon after birth as possible, and removed to such institutions.

No special plan is necessary for an institution in which infants are to be cared for, but the toilet and lavatory arrangements can, of course, be modified and reduced somewhat in quantity. Babies should, however, be kept separate from older children.

In the several illustrations accompanying these notes, the children's building forms part of a larger institution in some other portion of which there are probably "detention" quarters where newly-admitted children can be kept isolated for observation for a couple of weeks; to prevent the introduction of some contagious disease into the preventorium. Where the preventorium is not a unit of some larger institution, the plans should include a detention section of about 10 per cent of the ordinary bed capacity. The section should be self-contained; with its own facilities for eating, sleeping, bathing, etc., complete.

As in modern sanatorium planning, the toilets in a preventorium should be separated from the wash-room and baths. It is also much better not to include lavatory bowls and baths in the locker room, as there is usually a lot of moisture and, sometimes, steam from the warm water, in the air.

Either in the play room or in the main locker room, there should be individual receptacles where children can keep their toys and other "treasures." Quite often, the clothes lockers serve for this purpose as well as for clothing, but it is better to provide simple pigeon-hole shelving apart from the clothes lockers.

Marble, tile and similar types of flooring are not suitable for the sleeping quarters; the best material for this purpose being heavy "Battleship" linoleum; although hardwood, or rift-sawn pine are quite suitable.

It is scarcely necessary to emphasize the necessity for pleasant surroundings, playground space, grass, shrubs, and trees. Both inside and out, the institution must be home-like and attractive, for, as was remarked earlier, the spirit of happy comradeship is, so to speak, the "vehicle" in which are mixed the various "ingredients" which make up the life of the children in the preventorium and help build them up and ward off the dread disease of tuberculosis.

A Few References on Preventoria for Children.

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THE MART

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PERSPECTIVE DRAWING

(*Continued from page* 30)

distance points to those found at the limits of the point half way between *and* in the geometric plan is taken, and centering in point *a* with a radius equal to ½ *ad* and arc is described until it intersects the top limit of the picture. Thence tracing a straight line to measuring point No. 2 or *M II*, at the intersection of this line and the top limit of the object, the front face of the object is divided vertically exactly in two by lowering a perpendicular from this point.

Now to complete the picture as required by this problem which calls for a rectangular solid 40 units wide, 40 units deep, and 60 units high; this object to be placed 20 units to the left of the observer, also to start 20 units below the horizon line and extend 60 units high in all, proceed as follows: Figure 46 or 50. From point *a* (on the upper limit of picture) erect a perpendicular *aA*. (*A* being 20 units *below* horizon lines as required by the problem). Measure up 60 units from point *A* to point *E* as shown in Figure 50, and both from point *A* and point *E* using the vanishing points, trace straight lines respectively, then from points *F F'* and *G G'* which are the intersections of these lines and the verticals from *B* and *D* respectively using again the vanishing points, complete the figure, and finally in points *E, A, F, F', G, G', H, H'*, we have found the object in question exactly as required by the problem, and in the case of Figure 50, we have done so with comparative ease and with the elimination of all operations far removed from the picture plane. Needless to say the principles involved in this diagrammatic drawing may be applied to any of the more complex ones.

Nearly three-quarters of the fatal elevator accidents that occur could be prevented if elevators and shaftway doors were equipped with well-designed inter-locking devices, a survey and study conducted by the Bureau of Standards of the Department of Commerce has shown.

A large number of elevator fatalities occur at the shaft door, either through an open door which allows a person to fall down the shaft or it allows a person to step from a moving car and be crushed between the car and the door frame. An inter-lock prevents the shaft door from being opened except when the car is at rest in front of the door.