CORNELL UNIVERSITY
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Announcement of the College of Architecture 1924-25

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THE UNIVERSITY CALENDAR FOR 1924-25

Observed by all the departments of the University at Ithaca.

1924			FIRST TERM
Sept.	15,	*Monday,*	Entrance examinations begin.
Sept.	24,	*Wednesday,*	Registration and assignment of new students.
Sept.	25,	*Thursday,*	
Sept.	26,	*Friday,*	Registration and assignment of old students.
Sept.	27,	*Saturday,*	Assignments concluded.
Sept.	29,	*Monday,*	Instruction begins at 8 A. M.
Oct.	17,	*Friday,*	Last day for payment of tuition for the first term.
Nov.	27,	*Thursday,*	Thanksgiving Day: a holiday.
Dec.	20,	*Saturday,*	Instruction ends at 1 P. M. — Christmas Recess
1925			
Jan.	5,	*Monday,*	Instruction resumed, 8 A. M. — Christmas Recess
Jan.	11,	*Sunday,*	Founder's Day.
Jan.	24,	*Saturday,*	Instruction ends.
Jan.	26,	*Monday,*	Term examinations begin.
Feb.	4,	*Wednesday,*	Term ends.
Feb.	5,	*Thursday,*	A holiday.
			SECOND TERM
Feb.	6,	*Friday,*	Registration of all students.
Feb.	7,	*Saturday,*	
Feb.	9,	*Monday,*	Instruction begins at 8 A. M.
March	2,	*Monday,*	Last day for payment of tuition for the second term.
April	4,	*Saturday,*	Instruction ends at 1 P. M. — Spring Recess
April	13,	*Monday,*	Instruction resumed, 8 A. M. — Spring Recess
May	23,	*Saturday*	Spring Day: a holiday.
June	1,	*Monday,*	Term examinations begin.
June	9,	*Tuesday,*	End of term examinations.
June	15,	*Monday,*	COMMENCEMENT.

THE COLLEGE OF ARCHITECTURE

THE FACULTY

Livingston Farrand, A.B., M.D., L.H.D., LL.D., President of the University.

Francke Huntington Bosworth, jr., A.B., Dean of the College of Architecture, and Andrew Dickson White Professor of Architecture.

Clarence Augustine Martin, D.Sc., Professor of Architecture.

Olaf Martinius Brauner, Professor of Drawing and Painting.

Albert Charles Phelps, B.S., M.Arch., World War Memorial Professor of Architecture.

George Young, jr., B.Arch., Professor of Architecture.

E. Gorton Davis, B.S., Professor of Landscape Architecture.

Christian Midjo, Professor of Freehand Drawing and Modeling.

Ralph Wright Curtis, M.S.H., Professor of Ornamental Horticulture.

Leroy P. Burnham, M.S.Arch., Professor of Design.

George Ray Chamberlain, M.E., Assistant Professor of Freehand Drawing.

Eugene Davis Montillon, B.Arch., Assistant Professor of Landscape Architecture, and Secretary of the Faculty of Architecture.

Hubert E. Baxter, B.Arch., Assistant Professor of Architecture.

Walter King Stone, Assistant Professor of Drawing.

George Fraser, M.Arch., Assistant Professor of Design.

Edward Lawson, B.S., M.L.D., F.A.A.R., Assistant Professor of Landscape Architecture.

Jonathan B. Rider, Instructor in History of Architecture and Curator of College Collections.

Mildred E. VanAlstyne, Secretary to the Dean.

GENERAL STATEMENT

The College of Architecture is a professional school, designed to prepare students for taking up ultimately the independent practice of a profession. It offers courses leading to the degree of Bachelor of Architecture, or Bachelor of Landscape Architecture, or Bachelor of Fine Arts. The first of these courses is designed for the student who intends to practice architecture; it may be taken as a preparation for engaging in the manufacture of building materials or in the business of construction. The second is designed for the student who intends to practice landscape architecture; and the third, for the artist or prospective practitioner of any of the decorative arts.

The number of students in the college is limited in order to insure, throughout the course, that close personal association between teacher and pupil which is necessary for effective instruction in any of the creative arts. The courses are of a technical nature designed to meet the needs of persons preparing themselves for the practice of a profession. The work is competitive. The standard of scholarship is maintained by the students upon a professional basis. It is therefore inadvisable for those not vitally interested to attempt the work of any of these courses.

The course of study leading to any of the three degrees named above requires, normally, five years of work. It is possible, however, for a thoroughly prepared and ambitious student to qualify himself for any one of the three degrees in four years. In order to do so, it would be necessary to present for entrance Advanced Algebra, Trigonometry, Physics, and Chemistry. Students presenting these subjects for entrance are not required to repeat them in college. The rate of a student's progress in the college is determined in large part by the quality of his work and not alone by the quantity of it. The amount of work that a student is permitted to carry each term is dependent upon the excellence of his scholastic records, hence the actual time required for the completion of the course will depend upon his ability as indicated by that record. The time element in any art education, however, is of so much value that crowding of the work is not wise.

BUILDINGS AND EQUIPMENT

The College of Architecture occupies the third and fourth floors and a portion of the basement of White Hall and the top and a part of the second floor of Franklin Hall. The college offices, the college library, and the lecture and exhibition rooms occupy the third floor of White Hall. A suite of three drafting rooms, opening together so as to form virtually a single room approximately 45 by 156 feet in dimension, occupies the entire fourth floor. On the top floor of Franklin are well-lighted studios devoted to the work in freehand drawing, painting, and modeling.

The college library is one of the best in the country, and the student is permitted and encouraged to use the books, photographs, and drawings freely.

A carefully selected collection of about 24,000 lantern slides is used constantly in connection with the lectures upon history, theory, and construction.

The exhibition rooms are in use for the exhibition of current student work in design and in art or for exhibitions of drawings, paintings, and textiles, which serve to keep the student in touch with the work of other schools of architecture, and to familiarize him with the work of the best practitioners and artists.

THE REQUIREMENTS FOR ADMISSION

Candidates for admission should consult the General Circular of Information, which will be sent free on application to the Secretary of Cornell University, Ithaca, New York. All applications for admission to the freshman class should be addressed to the Registrar of Cornell University and should be filed not later than the first of August preceding the anticipated entrance.

The subjects that may be offered for admission to the College of Architecture are named in the following list. The figure in parenthesis following each subject indicates its value expressed in units and shows the maximum and minimum amount of credit allowed in the subject. A unit represents five prepared recitations a week for one year of study.

1a.	English 1	(1½)
1b.	English 2	(1½)
1c.	English (elective)	(1)
2a.	First Year Greek	(1)
2b.	Second Year Greek	(1)
2c.	Third Year Greek	(1)
3a.	First Year Latin	(1)
3b.	Second Year Latin	(1)
3c.	Third Year Latin	(1)
3d.	Fourth Year Latin	(1½)
4a.	First Year German	(1½)
4b.	Second Year German	(1)
4c.	Third Year German	(1)
4d.	Fourth Year German	(1)
5a.	First Year French	(1)
5b.	Second Year French	(1)
5c.	Third Year French	(1)
5d.	Fourth Year French	(1)
6a.	First Year Spanish	(1)
6b.	Second Year Spanish	(1)
6c.	Third Year Spanish	(1)
6d.	Fourth Year Spanish	(1)
7a.	First Year Italian	(1)
7b.	Second Year Italian	(1)
7c.	Third Year Italian	(1)
8a.	Ancient History	(½–1)
8b.	Modern History	(½–1)
8c.	American History, Civics	(½–1)
8d.	English History	(½–1)
9a.	Elementary Algebra	(1)
9b.	Intermediate Algebra	(½)
9c.	Advanced Algebra	(½)
9d.	Plane Geometry	(1)
9e.	Solid Geometry	(½)
9f.	Plane Trigonometry	(½)
9g.	Spherical Trigonometry	(½)
10.	Physics	(1)
11.	Chemistry	(1)
12.	Physical Geography	(½–1)
13.	Biology*	(1)
14.	Botany*	(½–1)
14a.	Zoology*	(½–1)
15.	Bookkeeping	(½–1)
16.	Agriculture	(½–1)
17.	Drawing†	(½–1)
18.	Manual Training†	(½–1)
19.	Any high school subject or subjects not already used	(½–1)

ADMISSION TO THE FRESHMAN CLASS

For admission to the freshman class men must be at least sixteen years of age and women seventeen, and the applicant is required to offer fifteen entrance units which must include English (3), History (1), Elementary Algebra (1), Intermediate Algebra (½), Plane Geometry (1), Solid Geometry (½,) either Greek, German, French, Latin, Italian, or Spanish (3 units in one language or 2 units in each of two of these languages.)

Among the remaining 5 or 4 units there must be included credit in at least one of the following: Advanced Algebra, ½ unit; Plane Trigonometry, ½ unit; Physics, 1 unit, or Chemistry, 1 unit. Not more than a total of one unit will be accepted for entrance in Bookkeeping, Agriculture, Drawing, and Manual Training.

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*If Biology (1 unit) is offered, neither Botany (½ unit) nor Zoology (½ unit) may be counted.

†An applicant for admission may not count under No. 19 work in any of the subjects Numbers 1-18 until he has offered the maximum in that particular subject under its proper number, e.g., four units of Latin, English, German, French, or Spanish; three units of Greek or Italian; one unit of Physics or Chemistry.

The above minimum entrance credits must be presented, for conditional entrance to the College of Architecture is not permitted.

Students are admitted to the freshman class at the beginning of the first term, in September.

Application for admission to the freshman class, accompanied by a deposit of $25 (see the General Circular of Information) must be made not later than August first in order to receive favorable consideration.

After the applicant's credentials have been received and accepted by the Registrar they will be forwarded to the college for ruling. Since the number of students who may be admitted to the college is necessarily limited the presentation of the required entrance units does not in itself insure admission. The selection from those fulfilling the above requirements will be made on the basis of scholastic record and such other evidence as would indicate a fitness on the part of the applicant for the professional work of the college. Applicants will be notified of the ruling by the college not later than August 10.

ADMISSION TO ADVANCED STANDING

A student who, having already attended some technical school or institution of collegiate rank, desires advanced standing in any regular course in the College of Architecture, should file with the Registrar of Cornell University, on an official blank to be obtained from him, a formal application for admission to advanced standing in the College of Architecture, together with an official certificate from the institution already attended, of his honorable dismissal, his entrance credits in detail, his terms of attendance, and the amount of work that he had completed, with a detailed statement of the courses pursued for which he desires credit at Cornell University. He should also send a catalogue of the institution, writing his name on it and marking the entrance requirements that he has satisfied and each subject that he has completed.

Credit for work completed in other institutions must be obtained from the Registrar *at the time of entrance* and students should obtain all possible credits at this time, even though not needed for immediate use.

Students with advanced standing are admitted to the college at the beginning of either the first or the second term. Application for admission should be made by August 1 as above, or for admission at the beginning of the second term not later than January 1. Applications should be accompanied by a deposit of $25. See the General Circular of Information.

ADMISSION OF SPECIAL STUDENTS

All correspondence concerning admission of special students should be addressed to the Dean of the College of Architecture. Special students are primarily those of advanced experience in the practice of their art. They must be at least twenty-one years of age, and must

have had a high school training or its equivalent, including a working knowledge of plane geometry and solid geometry and, in the case of architects, of algebra through quadratic equations. They should have at least three years' practical experience or its equivalent and submit with their application examples of their work or draftsmanship. Special students may be admitted at the beginning of either term, but applications accompanied by deposit should be filed by August 1 or January 1 as above. See also the General Circular of Information. A higher scholastic performance is expected of special students and is made a condition of their remaining enrolled in the college. The college issues no certificate for special work.

A SIX-YEAR COURSE LEADING TO THE DEGREES OF BACHELOR OF ARCHITECTURE AND CIVIL ENGINEER

A student may arrange a course of about six years leading to the degrees of Bachelor of Architecture and Civil Engineer. Such an arrangement must in every instance have the special approval of the College of Architecture and the School of Civil Engineering.

ADMISSION AS A GRADUATE STUDENT

All correspondence relating to graduate work should be addressed to the Dean of the Graduate School.

In all departments of the College of Architecture work is arranged to meet the special needs of graduate students. Candidates for advanced degrees in architecture or in landscape architecture must be graduates of schools of equal standing with the College of Architecture, and their training in design or other subjects elected for graduate study must be equivalent to the training required in the same subjects by the College of Architecture for the degree of Bachelor of Architecture or for the degree of Bachelor of Landscape Architecture.

TUITION AND OTHER FEES

Information about tuition and other fees, and about the expenses of living in Ithaca, should be looked for in the General Circular of Information.

FELLOWSHIPS: SCHOLARSHIPS: PRIZES

For information about scholarships that are open to students of this college in common with other students of the University, consult the General Circular of Information.

A University Fellowship of the value of $400 with free tuition is awarded annually to a graduate student in architecture.

The Beckwith Brown Memorial Medal may be awarded each year to the two members of the graduating class who have made the best record in design in their senior year.

The Sands Memorial Medal may be awarded for special excellence in any individual piece of work in any course in the college.

The Student Medal of the American Institute of Architects is awarded to the member of the graduating class whose record is the best throughout the entire course, and the person to whom the medal is awarded is invited to exhibit his work at the next annual convention of the Institute.

Through the *Beaux-Arts Institute of Design* numerous prizes are offered for excellence of work in design. These prizes are open to students in the College of Architecture who frequently compete for them with success and distinction to themselves and to the college.

The Fuertes Memorial Prizes in Oratory (first prize $125, second prize $35, and third prize $25) are open to students in architecture on equal terms with students in engineering.

THE HONOR CODE IN EXAMINATIONS

Under a constitution proposed and adopted by the students, and approved by the University Faculty on March 9, 1921, all students of Cornell University are put upon their honor with respect to their conduct in examinations and in other tests of work by which they are earning academic credit. The students have made themselves responsible for maintaining the code. For the trial of charges of breach of honor they elect committees of their own—a central committee for the University, and a committee in each of the colleges. Every student is expected to do his share in upholding the code, not only by honorable conduct on his own part, but also by refusal to conceal or condone fraud on another's part. A fraud observed in any college should be reported to a member of the student honor committee of that college.

COURSES OF STUDY

I. The Course Leading to the Degree of Bachelor of Architecture.

This course is designed for the person who intends to become a practicing architect.

II. An Optional Course Leading to the Degree of Bachelor of Architecture and Related Especially to Construction.

This course is designed for the student who plans to engage particularly in the structural field of architectural practice or who wishes to prepare himself for the business of contractor or of manufacturer of building materials.

III. The Course Leading to the Degree of Bachelor of Fine Arts.

This course is intended for the person who expects to become a painter or sculptor.

IV. An Optional Course Leading to the Degree of Bachelor of Fine Arts and Related Especially to Decorative Art.

This course is intended for the person who expects to become a practitioner of one of the decorative arts.

V. The Course Leading to the Degree of Bachelor of Landscape Architecture.

This course is intended for the person who expects to become a practicing landscape architect.

SEQUENCE OF COURSES LEADING TO DEGREES

The schedules on the next five pages show the normal sequence of the courses of instruction that lead to the several degrees. In order to become eligible to the degree corresponding to any one of the five courses of study, the student must complete the required work in Hygiene and Military Drill (or Physical Training; see the General Circular of Information) and the courses of instruction that are comprised in that curriculum. Normally any of these courses of study requires five years for completion.

I. *The Course Leading to the Degree of* Bachelor of Architecture

FIRST YEAR

Theory of Architecture, 101	1	0
Elementary Design, 111, 112	3	3
Elementary Drawing, 131, 132	3	3
History of Architecture, 142	0	3
Descriptive Geometry, 151, 152	2	3
English, 1	3	0
Physics or Advanced Algebra } (depending on subjects offered for	0	5
Trigonometry } entrance)	3	0
Total number of hours each term	15	17

SECOND YEAR

Theory of Architecture, 202	0	1
Architectural Design, 213, 214	4	4
Elements of Color, 133, 134	1	1
History of Architecture, 241, 242	3	3
Perspective, 252	0	1
Modeling, 234	0	2
Materials of Construction, 262	0	2
Analytic Geometry and Calculus, 8	3	3
Chemistry, 1 (depending on entrance)	6	0
Total number of hours each term	17	17

THIRD YEAR

Architectural Design, 213, 214	4	6
Water Color, 331	3	0
Mechanics, 321	2	0
Strength of Materials, 322	0	3
Masonry Construction, 361	2	0
Carpentry, 362	0	2
History of Painting and Sculpture, 341, 342	1	1
Life and Antique, 231, 232	2	3
Public Speaking, 29	3	0
Heating and Plumbing, 364	0	2
Total number of hours each term	17	17

FOURTH YEAR

Architectural Design, 313, 314	6	6
Structural Design, 421, 422	3	2
Concrete Construction, 280	0	3
Working Drawings, 461	4	0
English	0	3
Elective	3	3
Total number of hours each term	16	17

FIFTH YEAR

Advanced Design and Thesis, 413, 414	10	10
History of Modern Architecture, 542	2	0
Elective	5	6
Total number of hours each term	17	16

II. *An Optional Course Leading to the Degree of* Bachelor of Architecture *and Related Especially to* Construction.

FIRST YEAR

Theory of Architecture, 101	1	0
Elementary Design, 111, 112	3	3
Elementary Drawing, 131, 132	3	3
History of Architecture, 142	0	3
Descriptive Geometry, 151, 152	2	3
English, 1	3	0
Physics or Advanced Algebra } (depending on subjects offered for	0	5
Trigonometry } entrance)	3	0
Total number of hours each term	15	17

SECOND YEAR

Theory of Architecture, 202	0	1
Architectural Design, 213, 214	4	4
Elements of Color, 133, 134	1	1
Modeling, 234	0	2
History of Architecture, 241, 242	3	3
Perspective, 252	0	1
Analytics and Calculus, 4, 5	3	5
Chemistry (depending on entrance)	6	0
Total number of hours each term	17	17

THIRD YEAR

Architectural Design, 213, 314	4	6
Masonry Construction, 361	2	0
Analytics and Calculus, 6	3	0
Elementary Surveying (C.E., 110)	0	3
Mechanics (C.E., 220, 221)	5	5
Materials Laboratory (C.E., 222)	0	2
Materials of Construction (C.E., 225)	3	0
Total number of hours each term	17	16

FOURTH YEAR

Architectural Design, 313	6	0
Antique, 232	0	3
History of Painting and Sculpture, 341, 342	1	1
Carpentry, 362	0	2
Heating and Plumbing, 364	0	2
Structural Design (C.E., 270, 271)	4	3
Steel Buildings (C.E., 273)	3	0
Concrete Construction (C.E., 280)	0	3
Elective	3	3
Total number of hours each term	17	17

FIFTH YEAR

Architectural Design and Thesis, 313	6	5
Working Drawing, 461	4	0
Concrete Design (C.E., 282)	0	3
Public Speaking, 29	0	3
Elective	7	5
Total number of hours each term	17	16

III. *The Course Leading to the Degree of* Bachelor of Fine Arts.

FIRST YEAR

Theory of Architecture, 101	1	0
Elementary Design, 111, 112	3	3
Elementary Drawing, 131, 132	3	3
Elements of Color, 136	0	2
History of Architecture, 142	0	3
Descriptive Geometry, 151, 152	2	3
History (general)	3	3
Physics, 2	5	0
Total number of hours each term	17	17

SECOND YEAR

Theory of Architecture, 202	0	1
Antique, 231	2	0
Drawing or Modeling from Cast, 238	0	4
Still-Life (oils), 235	3	0
Life Class, 233	3	0
Modeling, 234	0	2
History of Architecture, 241, 242	3	3
Perspective, 252	0	1
Chemistry, 1	0	6
English, 1	3	0
History	3	0
Total number of hours each term	17	17

THIRD YEAR

Water Color, 331	3	0
Drawing and Modeling from Life, 333, 334	4	6
History of Painting and Sculpture, 341, 342	1	1
Historic Ornament, 741	2	0
Advanced Perspective, 351	1	0
Anatomy, 24	3	3
History	0	3
English	3	3
Total number of hours each term	17	16

FOURTH YEAR

Painting and Modeling from Life, 435, 436	3	6
Color Composition, 431, 432	2	2
Graphic Arts, 433, 434	2	2
History of Greek Sculpture, 1	3	0
Philosophy	3	3
Elective	3	3
Total number of hours each term	16	16

FIFTH YEAR

Composition, 531	1	0
Painting or Modeling from Life, 532	0	6
Advanced Painting or Modeling (costumed or nude model), 533, 534	6	4
Philosophy of the Fine Arts, 4	3	0
Elective	6	6
Total number of hours each term	16	16

IV. *An Optional Course Leading to the Degree of* Bachelor of Fine Arts *and Related Especially to* Decorative Art.

FIRST YEAR

Theory of Architecture, 101	1	0
Elementary Design, 111, 112	3	3
Elementary Drawing, 131, 132	3	3
Elements of Color, 136	0	2
History of Architecture, 142	0	3
Descriptive Geometry, 151, 152	2	3
Physics, 2	5	0
General History	3	3
Total number of hours each term	17	17

SECOND YEAR

Theory of Architecture, 202	0	1
Architectural Design, 213, 214	4	4
Life and Antique, 231, 232	2	3
Modeling, 234	0	2
History of Architecture, 241, 242	3	3
History of Painting and Sculpture, 341, 342	1	1
Perspective, 252	0	1
Materials of Construction, 262	0	2
Chemistry	6	0
Total number of hours each term	16	17

THIRD YEAR

Architectural Design, 213, 314	4	6
Water Color, 331	3	0
Color Composition, 431, 432	2	2
Historic Ornament, 741	2	0
Advanced Perspective, 351	1	0
Carpentry, 362	0	2
Public Speaking, 29	0	3
Still Life and Oils, 235	3	0
History of Greek Sculpture, 1	3	0
English	0	3
Total number of hours each term	18	16

FOURTH YEAR

Architectural Design, 313, 314	2	2
Decoration, 417, 418	8	8
Working Drawings, 461	4	0
General History	0	3
Electives	3	4
Total number of hours each term	17	17

FIFTH YEAR

Advanced Decoration and Thesis, 513, 514	10	10
Philosophy	3	3
Electives	4	4
Total number of hours each term	17	17

V. *The Course Leading to the Degree of* Bachelor of Landscape Architecture.

FIRST YEAR

Theory of Architecture, 101	1	0
Elementary Design, 111, 112	3	3
Elementary Drawing, 131, 132	3	3
History of Architecture, 142	0	3
Descriptive Geometry, 151, 152	2	3
English 1	3	0
Physics or Advanced Algebra } (depending on subjects offered for	0	5
Botany or Trigonometry } entrance)	3	0
Total number of hours each term	15	17

SECOND YEAR

Theory of Architecture, 202	0	1
Landscape Design, 215, 216	4	4
Elements of Color, 133, 134	1	1
History of Architecture, 241, 242	3	3
Perspective, 252	0	1
Plant Materials, 13	0	3
Analytic Geometry and Calculus, 8	3	3
Chemistry, 1 (depending on entrance)	6	0
Total number of hours each term	17	16

SUMMER SESSION
(Second Summer)

Woody Plant Materials, S5	5	
Herbaceous Plant Materials, S4	3	

THIRD YEAR

Landscape Design, 215, 316	4	6
Mechanics, 321	2	0
Strength of Materials, 322	0	3
Life and Antique, 231	2	0
History of Landscape Design, 343	3	0
Plant Materials, 13	3	0
Planting Design, 18	0	2
Surveying (C.E., 110)	3	0
Advanced Surveying (C.E., 211A)	0	3
Herbaceous Planting, 15	3	0
Total number of hours each term	17	17

FOURTH YEAR

Theory: Public Properties, 402	0	1
Landscape Design, 315, 316	6	6
Water Color, 331	3	0
Planting Design	2	0
Construction Details (C.E., 463, 464)	3	3
Geology	0	3
English, 1	0	3
Elective	0	3
Total number of hours each term	17	16

FIFTH YEAR

Advanced Landscape Design and Thesis, 415, 416	10	6
Public Speaking, 29	3	0
Elective	3	6
Total number of hours each term	16	12

COURSES OF INSTRUCTION

GIVEN IN THE COLLEGE OF ARCHITECTURE

THEORY OF ARCHITECTURE

101. *Theory of Architecture.* First term. Credit one hour. Professor BOSWORTH. Lectures, with sketches and essays by the class.

202. *Theory of Architecture.* Second term. Credit one hour. Prerequisite course 101. Professor BOSWORTH. Lectures, with sketches and essays by the class.

402. *Theory: Planning of Parks and Park Systems.* Second term. Credit one hour. Professor DAVIS. Lectures and assigned reading.

701. *Philosophy of Architecture.* First term. Credit one hour. Prerequisite course 314. Professor BOSWORTH. Lectures, with sketches and assigned work.

702. *Philosophy of Architecture.* Second term. Credit one hour. Prerequisite course 314. Continuation of Course 701. Either term or both may be taken. Professor BOSWORTH.

DESIGN

Courses in Landscape and Architectural Design are given by the Design Staff and consist of individual criticism over the drafting board.

111, 112. *Elementary Design.* Throughout the year. Credit three hours a term. Professor BOSWORTH and Professor BURNHAM. Elementary composition, with drawings in pencil and ink, rendered in wash and color.

213, 214. *Architectural Design.* Throughout the year. Credit four hours a term. Prerequisite courses 111, 112. A series of problems in architectural composition and planning. Two of the problems each term are identical with those given in 215, 216.

215, 216. *Landscape Design.* Throughout the year. Credit four hours a term. A series of problems in landscape composition and planning. Two of the problems each term are identical with those given in 213, 214.

313, 314. *Architectural Design.* Credit six hours a term. Prerequisite, three terms of course 213, 214. A series of problems in architectural composition and studies of detail. One problem each term is identical with that given in course 315, 316.

315, 316. *Landscape Design.* Credit six hours a term. Prerequisite, three terms of course 215, 216. A series of problems in landscape composition and studies of detail. One problem each term is identical with that given in Course 313, 314.

413, 414. *Advanced Architectural Design and Thesis.* Credit ten hours a term. Prerequisite three terms of course 313, 314. Prerequisite courses for thesis, 461, 421, 422.

415, 416. *Advanced Landscape Design and Thesis.* Credit ten hours first term. Second term six hours. Prerequisite, three terms of course 315, 316.

417, 418. *Decoration.* Throughout the year. Credit eight hours a term. Prerequisite course 213, 214. A single term may be taken for two hours elective credit. Professor BOSWORTH and Professor BURNHAM. A series of lectures and problems in interior composition and detail.

513, 514. *Advanced Decoration and Thesis.* Throughout the year. Credit ten hours a term. Prerequisite course 417, 418. Professor BOSWORTH and Professor BURNHAM. A series of problems in advanced interior composition and detail.

714. *Architectural Rendering.* Second term. Credit three hours. Prerequisite course 314. Series of exercises in pencil, pen, and wash renderings. Professor BURNHAM.

THEORY OF CONSTRUCTION

321. *Mechanics.* First term. Credit two hours. Prerequisite course Mathematics 8. Professor YOUNG and Assistant Professor BAXTER. A brief study of the principles of analytic and graphic statics with reference to their application in Course 322. Recitations.

322. *Strength of Materials.* Second term. Credit three hours. Prerequisite course 321. Professor YOUNG and Assistant Professor BAXTER. A brief study of the effects of loading in producing stress and deformations. The classroom work is supplemented by problems relating to beams, columns, masonry, and very briefly to reinforced concrete. Two recitations and one computing period.

421, 422. *Structural Design.* First term, credit three hours; second term, credit two hours. Prerequisite courses 321, 322. Professor YOUNG and Assistant Professor BAXTER. The principles studied in Courses 321 and 322 are applied to the structural design of typical architectural problems. Lectures and reports.

721. *Structural Analysis.* First term. Credit three hours. Prerequisite course 422. Professor YOUNG. Open to a limited number of qualified upperclassmen and graduates.

FREEHAND DRAWING AND ART WORK

131, 132. *Elementary Drawing.* Throughout the year. Credit three hours a term. Assistant Professor CHAMBERLAIN. Pencil and charcoal drawing from geometric models and the cast.

133, 134. *Elements of Color.* Throughout the year. Credit one hour a term. Assistant Professor STONE. Elementary color work from still life.

136. *Elements of Color.* Second term. Credit two hours. Assistant Professor STONE.

231, 232. *Life and Antique.* First term. Credit two hours. Professor BRAUNER and Professor MIDJO. Second term. Credit three hours. Professor BRAUNER. The work consists of drawing from the antique and from life.

233. *Life Class.* First term. Credit three hours. Professor BRAUNER and Professor MIDJO. The work consists of drawing from the nude model.

234. *Modeling.* Second term. Credit two hours. Prerequisite courses 131, 132. Professor MIDJO.

235. *Still Life in Oils.* First term. Credit three hours. Professor MIDJO.

238. *Drawing or Modeling from the Cast.* Second term. Credit four hours. Professor MIDJO.

331. *Water Color Painting.* First term. Credit three hours. Prerequisite courses 133, 134. Assistant Professor STONE.

333, 334. *Drawing and Modeling from Life.* First term, credit four hours; second term, credit six hours. The painter to model, the sculptor to draw. Professor BRAUNER.

335, 336. *Drawing.* Throughout the year. Credit two hours a term. Prerequisite courses 131, 132, and 133, 134. Assistant Professor STONE. Drawing primarily from nature or from natural forms.

431, 432. *Color Composition.* Throughout the year. Credit two hours a term. Professor MIDJO. Exercises in original color compositions.

433. *Graphic Arts.* First term. Credit two hours. Assistant Professor STONE. A study of illustrative mediums: etching, engraving, lithographing.

434. *Graphic Arts.* Second term. Credit two hours. Assistant Professor STONE. A continuation of Course 433.

435, 436. *Painting or Modeling from Life.* First term, credit three hours; second term, credit six hours. Professor BRAUNER.

531. *Composition.* First term. Credit one hour. Professor MIDJO. Exercises in composition in black and white and in color.

532. *Painting or Modeling from Life.* The first half of the term. The second half of the term will be devoted to a thesis problem in any medium,—this problem to be an original composition. Second term. Credit six hours. Professor BRAUNER and Professor MIDJO.

533, 534. *Advanced Painting and Modeling.* First term, credit six hours; second term, credit four hours. Professor BRAUNER. From the costumed and nude model.

HISTORY

142. *History of Architecture.* Second term. Credit three hours. Professor PHELPS. Egyptian, Greek, Roman, and Byzantine architecture. Lectures with assigned readings, sketches, and examinations.

241. *History of Architecture.* First term. Credit three hours. Prerequisite course 142. Professor PHELPS. Romanesque and Gothic architecture. Lectures with assigned readings, sketches, and examinations.

242. *History of Architecture.* Second term. Credit three hours. Prerequisite course 241. Professor PHELPS. Architecture of the Renaissance and to the beginning of the nineteenth century in the principal European countries. Lectures with assigned reading, sketches, and examinations.

341, 342. *History of Painting and Sculpture.* Throughout the year. Credit one hour a term. Professor BRAUNER. A brief survey of the history of Greek sculpture and of Italian painting.

343. *History of Landscape Design.* First term. Credit three hours. Professor DAVIS. Lectures, sketches, and assigned reading.

541. *Modern Architecture.* First term. Credit two hours. Prerequisite course 242. Professor PHELPS. Nineteenth century architecture in the principal European countries and colonial and more recent work in the United States.

741. *Historic Ornament.* First term. Credit two hours. Prerequisite course 242. Professor PHELPS. Some of the great historic styles of decoration will be analyzed and studied in detail, and the development of furniture, stained glass, and other minor arts will be briefly outlined. Lectures, sketches, and examinations.

743, 744. *Historical Seminary.* Throughout the year. Credit two hours a term. Professor PHELPS. Investigation of assigned topics in the history of architecture; review of books and discussions of current periodical literature. For graduates and open to qualified upperclassmen by permission.

GRAPHICS

151, 152. *Descriptive Geometry.* First term, credit two hours; second term, credit three hours. Professor YOUNG and Assistant Professor BAXTER. The fundamental principles of descriptive geometry are studied and applied to the solution of problems in projection. Lectures and drawing.

252. *Perspective.* Second term. Credit one hour. Prerequisite courses 151, 152. Professor MARTIN. Lectures and drawing.

351. *Advanced Perspective.* First term. Credit one hour. Prerequisite course 252. Professor MARTIN. Lectures and drawing.

APPLIED CONSTRUCTION

262. *Materials of Construction.* Second term. Credit two hours. Professor MARTIN. A brief study of the properties, characteristics, manufacture, and use of the more common materials used in building construction, as plaster, lime, cement, clay products, stone, metals, and wood.

361. *Masonry Construction.* First term. Credit two hours. Prerequisite course 361. Professor MARTIN. Masonry construction as applied to buildings, including survey and setting out, foundation soils, drainage and water-proofing, structural foundations, concrete, stonework, brickwork, tile and terra cotta work, fireproofing, plaster, and stucco.

362. *Carpentry and Roofing.* Second term. Credit two hours. Professor MARTIN. A study of carpentry and joinery as applied to the construction and finish of buildings and a study of roofing with shingles, sheet metals, bituminous compositions, slates, tiles, etc.

364. *Heating, Plumbing, and Lighting.* Second term. Credit two hours. Professor MARTIN. A brief study of the principles of heating, ventilation, plumbing, and lighting. Lectures and exercises.

461. *Working Drawings and Specifications.* First term. Credit four hours. Prerequisite courses 362 and 461. Professor MARTIN. The work of this course consists in the preparation of scale drawings and details approximating office practice as closely as possible, and including specification notes and a brief study of the principles of specification writing.

463, 464. *Construction Details.* Throughout the year. Credit three hours a term. Engineering problems peculiar to landscape work. Professor ——.

762. *Fire Resisting Construction.* Second term. Credit two hours. Professor MARTIN. A study of fire prevention and fire protection in the design, construction, and equipment of buildings. Lectures and assigned reading.

COURSES OF THE REGULAR CURRICULA GIVEN OUTSIDE THE COLLEGE OF ARCHITECTURE

MILITARY SCIENCE AND TACTICS, AND PHYSICAL TRAINING

All men in the first two years of undergraduate courses must, in addition to the scholastic requirements for the degree, take three hours a week in the Department of Military Science and Tactics. This department is a unit of the Reserve Officers' Training Corps of the United States Army. The students are organized in an infantry regiment of twelve regular companies, a battalion of field artillery of three batteries, one headquarters company, one machine gun company, and a band.

For details of the work in the Department of Military Science and Tactics, see the General Circular of Information.

All women in the first two years of undergraduate courses, and all men of those two classes who are excused from military drill, must, in addition to the scholastic requirements for the degree, take three hours a week in the Department of Physical Training.

For details of the work in the Department of Physical Training, see the General Circular of Information.

HYGIENE AND PREVENTIVE MEDICINE

All students in the first two years of undergraduate courses are required to attend lectures on Hygiene and Preventive Medicine given once a week throughout the college year.

COURSES GIVEN IN THE COLLEGE OF ARTS AND SCIENCES

MATHEMATICS

2. *Advanced Algebra.* Repeated in second term. Credit five hours.

3. *Plane Trigonometry.* Repeated in second term. Credit three hours.

4, 5, 6. *Analytic Geometry and Calculus.* Primarily for students in the College of Engineering. Prerequisite courses 2, 3, or their equivalent. These courses are offered each term.

4. Credit three hours.

5. Credit five hours. Continuation of Course 4.

6. Credit three hours. Continuation of Course 5.

8. *Analytic Geometry and Calculus.* Throughout the year. Credit three hours a term. Prerequisite courses 2, 3, or their equivalents.

English

1. *Introductory Course.* Throughout the year. Credit three hours a term. Assistant Professor Smith and assistants.

29. *Oral Expression.* First term. Credit three hours. Professor ———. While other forms of address will not be ignored, the emphasis in this course will be upon training for the clear and convincing interpretation of drawings or plans for important projects as they might be presented before building committees, city councils, civic societies, etc. Problems for discussion will be taken from the daily work of the students.

Greek Art and Antiquities

1. *History of Greek Sculpture.* Throughout the year. Credit three hours a term. Professor Andrews. Lectures in the Museum of Casts.

Philosophy

4. *The Fine Arts; their Philosophy and History in Outline.* First term. Credit three hours. Professor Hammond. An elementary course on aesthetics. Lectures, assigned readings, and examinations.

Physics

2. *Introductory Experimental Physics.* Repeated in second term. Credit five hours. Three lectures, one two-hour classroom period and one two-hour laboratory period each week. Professors Merritt and Gibbs. Classroom and laboratory work. Hours to be arranged. Assistant Professor Howe and assistants.

Chemistry

1. *Introductory Inorganic Chemistry.* Repeated in second term. Credit six hours. Lectures, recitations, and laboratory. 1a. Lectures. Professor Browne and Mr. ———. 1b. Recitations and laboratory.

Geology

1. *Elementary Geology.* Repeated in second term. Credit three hours. Professor Ries and assistants. Lectures and laboratory period. Students must register for laboratory assignments at Elementary Geology Laboratory, McGraw Hall, before the beginning of the course. Planned to give beginners the fundamental principles of this branch of science. Those desiring additional work in geology are advised especially to take one or more of the following courses: a1, 2, 11, 21, 32.

COURSE GIVEN IN THE MEDICAL COLLEGE

24. *Anatomy.* Throughout the year. Credit three hours a term. Professor Kerr. A study in anatomy for the artist. Lectures and drawing periods.

COURSES GIVEN IN THE COLLEGE OF AGRICULTURE

1. *General Botany.* First and second terms. Credit three hours a term. Lectures and laboratories. This course is designed to furnish a general knowledge of the fundamental facts and principles of plant life. Laboratory fee $2.50 a term; deposit, $3, for the first term only.

13. *Woody-Plant Materials.* First and second terms. Credit three hours a term. Lectures, laboratories, and field trips. Professor R. W. Curtis. A brief study of the characteristics and requirements of trees, shrubs, and vines for landscape planting. Laboratory fee, $1.50.

18. *Planting Design.* Elementary course. Second term. Credit two hours. Prerequisite course 13. Lectures, drafting, and outdoor practice. Professor Curtis.

19. *Planting Design.* Advanced course. Throughout the year. First term, credit three hours, second term, credit one hour. Prerequisite course 18. Professor CURTIS.

SIX WEEKS SUMMER SESSION

S 4. *Plant Materials, Herbaceous.* Credit three hours. Lectures and laboratories. Miss MINNS and Mr. PORTER. Must be accompanied by S 5. Laboratory fee, $2.

S 5. *Plant Materials, Woody.* Credit five hours. Lectures, laboratories and field trips. Professor CURTIS and Mr. PORTER. Must be accompanied by S 4. Laboratory fee, $2.

COURSES GIVEN IN THE COLLEGE OF ENGINEERING

110. *Elementary Surveying.* Freshmen. Either term as assigned. Credit three hours. Use of steel tape, level and transit; fundamental surveying methods, measurement of lines, angles, and differences of elevation; land surveying, areas and plotting. Recitations, field work, computations, and mapping. Textbooks: Breed and Hosmer's *Elementary Surveying*, and Leland and Boothroyd's *Area of Land.* One recitation and two field or computation periods a week. Assistant Professors UNDERWOOD and BOOTHROYD, Assistant Professor LAWRENCE, and Messrs. BROWN, PENDLETON, and BOYLES.

211A. *Advanced Surveying.* For students in Forestry and Landscape Architecture. Second term. Credit three hours. Prerequisite course 110; Topographic, hydrographic, mine, and geodetic surveying and field astronomy; United States Public Land Surveys; precise measurements; transit and stadia; plane table; sextant; stream measurement; topographic reconnaissance; road location; circular curves; triangulation for the control of local surveys; base lines; field determinations of time, latitude, and azimuth. Recitations and field work. Textbook: Breed and Hosmer's *Higher Surveying.* Professor UNDERWOOD and Assistant Professor LAWRENCE.

220. *Mechanics of Engineering.* For sophomores in Civil Engineering. First term. Credit five hours. Repeated in one section, second term. Prerequisite, Mathematics 5b. Statics of a material point and of rigid bodies by graphic and by algebraic methods of analysis; chains and cords; centers of gravity; moments of inertia of plane figures; dynamics (kinetics) of a material point; impact; virtual velocities; centrifugal and centripetal forces; pendulums; moments of inertia of rigid bodies; dynamics (kinetics) of rigid bodies. Textbooks: Church's *Mechanics of Engineering*, and *Notes and Examples in Mechanics* supplemented by other printed notes and problems. Four recitations and one computing period a week. The computing period will be in charge of an instructor and will be devoted to the solution of mechanics problems, the use of the slide rule, planimeter, etc. The solution of each problem is to be written up in good form and will be criticized by the instructor. If found unsatisfactory, either as to form or matter, it will be returned for revision. Emphasis will be placed particularly upon correct numerical work and consistent use of proper units. Each student is required to provide himself with a slide rule of approved type. Professors GEORGE and RETTGER.

221. *Mechanics of Engineering.* Second term. Credit five hours. Continuation of Mechanics 220. Prerequisite, Mechanics 220. Work; power; energy; fly-wheels; friction; dynamometers; general theorem of work and energy applied to machines; mechanics of materials including stress and strain, tension, shearing, compression, torsion, flexure; elastic curves; safe loads; columns; flexure of beams by semigraphic treatment. Review problems showing application of principles of Mechanics in Engineering Design. Textbooks: Church's *Mechanics of Engineering*, and *Notes and Examples in Mechanics*, supplemented by other printed notes and problems. Four recitations and one computing period a week. Professors GEORGE and RETTGER.

225. *Materials of Construction.* Juniors. Either term (one-half of the class each term). Credit three hours. Should preferably be preceded by, or taken with Course 221, and must precede or be taken with Course 226. The materials studied are: Lime, cement, stone, brick, sand, timber, ores, cast iron, wrought iron, steel, and some of the minor metals and alloys. The chemical and physical properties, uses, methods of manufacture, methods of testing, and unit stresses of each material are considered, particular emphasis being laid on the points of importance to engineers. The work is planned to co-ordinate with the course in Materials Laboratory and to supplement that work where necessary. Three recitations a week. Textbook: Mills's *Materials of Construction.* Professor SCOFIELD.

226. *Materials Laboratory.* Juniors. Either term (about one-half of the class each term). Credit two hours. Should preferably be preceded by or taken with Course 221, and must be preceded by or taken with Course 225. Experimental determination of the properties of materials by mechanical tests. Study of testing machines (their theory, construction, and manipulation); calibration of testing machines and apparatus; commercial tests of iron and steel; tensile, compressive, torsional, shearing, and flexure tests of metals and various woods with stress-strain observations; tests of cement for fineness, specific gravity, normal consistency, time of setting, soundness, and tensile and compressive strength for neat and mortar mixtures; tests of concrete aggregate, and of road material and paving brick. The course is planned to co-ordinate with course 225 and to supplement directly the study of the properties of materials by the actual handling of the materials and by observations of their behavior under stress. Laboratory work two and one-half hours a week. Professor SCOFIELD.

270. *Structural Design and Bridge Stresses.* Juniors. First term. Credit four hours. Prerequisite courses 220 and 221.

Structural Design. The recitations cover the graphic analysis of simple beams and roof trusses. The computations and drawings include complete detail designs and working drawings of wooden joints to resist large tensile stresses, and of a wooden roof truss for given specifications. The object of the course is to show how to apply the principles of mechanics to the design of every detail of the simple structures named, and to study the forms and strength of joints and fastenings used in heavy timber framing. The computations required are to be arranged in systematic order in the form of reports. Reference book: Jacoby's *Structural Details.* Computation and drawing, two and one-half hours a week.

Bridge Stresses. Stresses due to dead, live, and wind loads, initial tension, and impact; panel loads and locomotive axle loads; determination of the position of live loading for greatest stresses; maximum and minimum stresses; analytic and graphic methods are used. The principal types of simple trusses employed in modern construction are considered, in several cases both with and without counterbracing; historical notes on truss bridges. The solution of many numerical examples taken from practice forms a prominent part of the class work. Textbook: Merriman and Jacoby's *Roofs and Bridges,* Parts I and II. Three recitations a week. Assistant Professors URQUHART, BURROWS, and O'ROURKE.

271. *Structural Design.* Juniors. Second term. Credit three hours. Prerequisite course 270. An elementary course in Steel Design. Complete design, detail drawings, bill of material and estimate of weight of a steel roof truss and of a through and deck railroad plate girder bridge. Textbook: Johnson, Bryan, and Turneaure's *Modern Framed Structures, Part III.* Three computation and drawing periods a week. Assistant Professors URQUHART, BURROWS, and O'ROURKE.

273. *Steel Buildings.* Elective. Seniors and graduates. First term. Credit three hours. Prerequisite courses 220, 221, and 271. This course may be substituted for Engineering Design, Course 291. This course comprises the design of the steel framework for a building of the prevailing type used in power house or shop construction. Dead, snow, and wind stress diagrams are drawn for

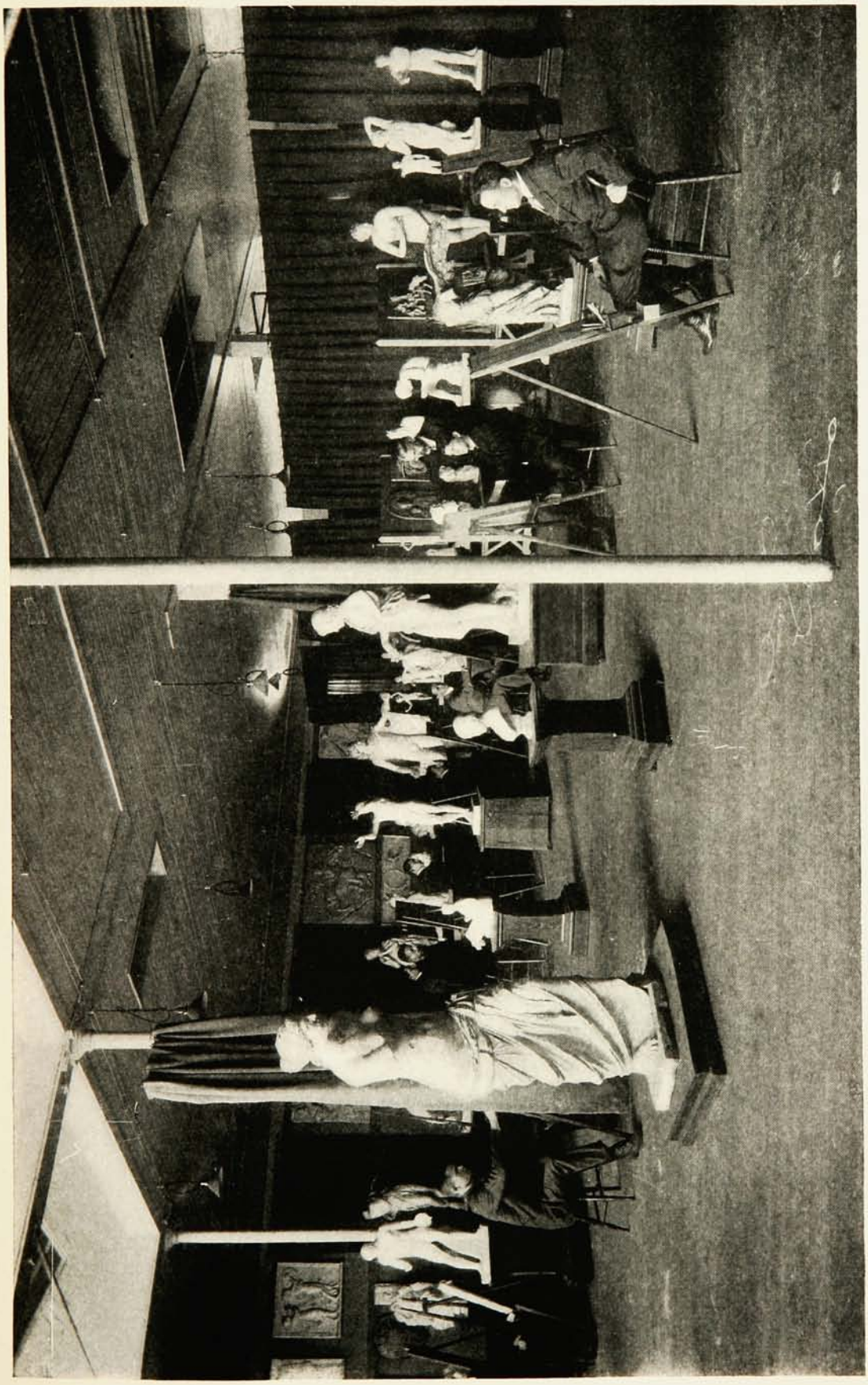
the roof trusses. Provision is made for an electric crane moving the full length of the building and the stresses in the framework due to the movement of the crane are determined. The effect of the wind and the eccentric load due to the crane girder are considered in the design of the columns. Assistant Professor BURROWS.

280. *Concrete Construction.* Either term. Credit three hours. Prerequisite courses 220 and 221. Concrete materials, properties of plain concrete, its making and deposition; elementary theory of reinforced concrete as applied to columns, rectangular beams and slabs; T-beams and beams reinforced for compression; direct stress combined with flexure. Laboratory work includes the making and testing of columns, beams, and bond specimens. Two recitations and one laboratory or computing period a week. Assistant Professors URQUHART and O'ROURKE, and Mr. HOWELL.

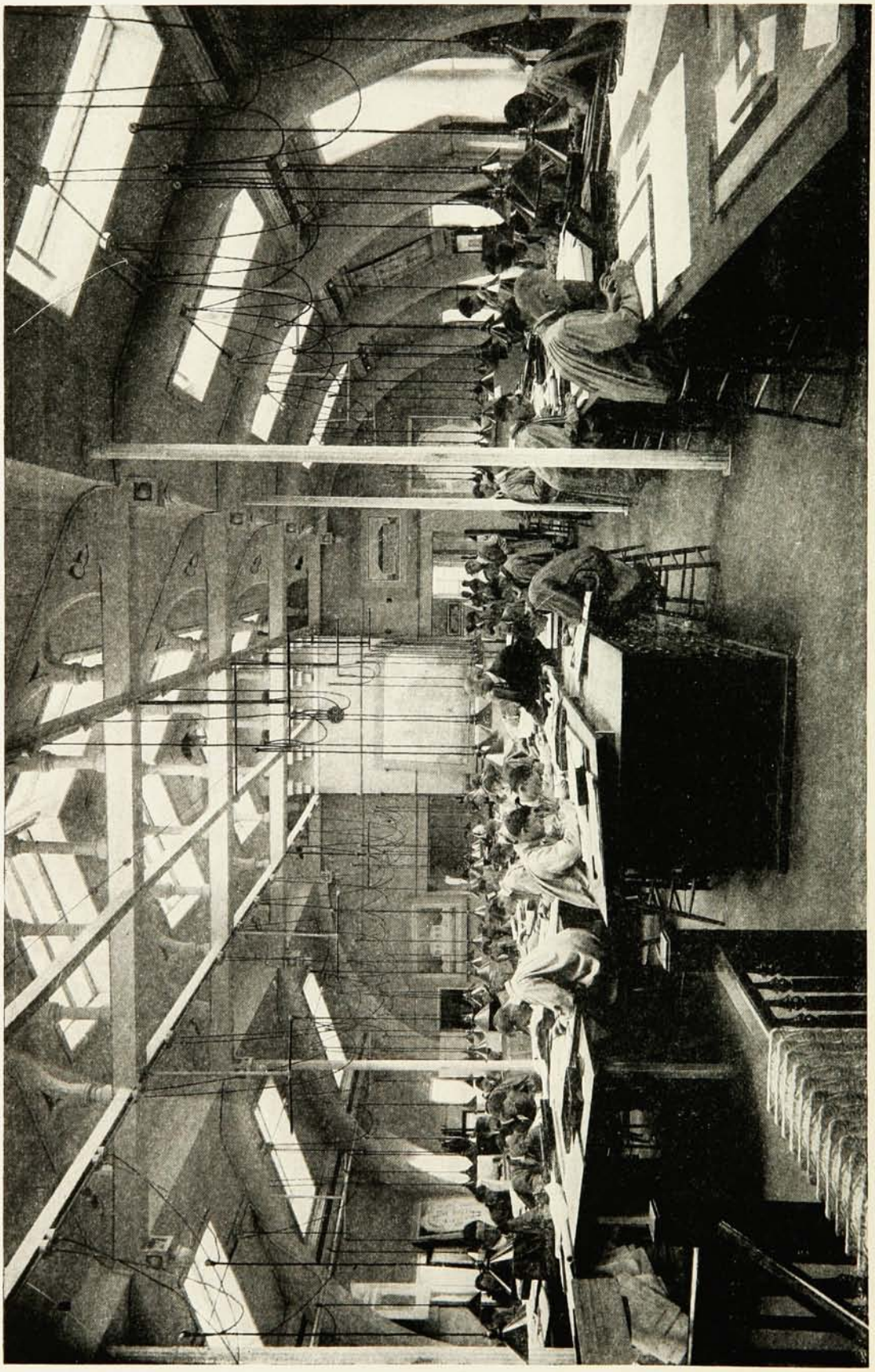
282. *Concrete Design.* Elective. Seniors and graduates. Second term. Credit three hours. Prerequisite course 280. Applications of the theory of reinforced concrete to the design of the various types of retaining walls; selective problems in the design of reinforced concrete structures such as buildings, sewers, etc. Reports and drawings. Seven and one-half hours a week. Assistant Professors URQUHART and O'ROURKE.

ELECTIVE COURSES

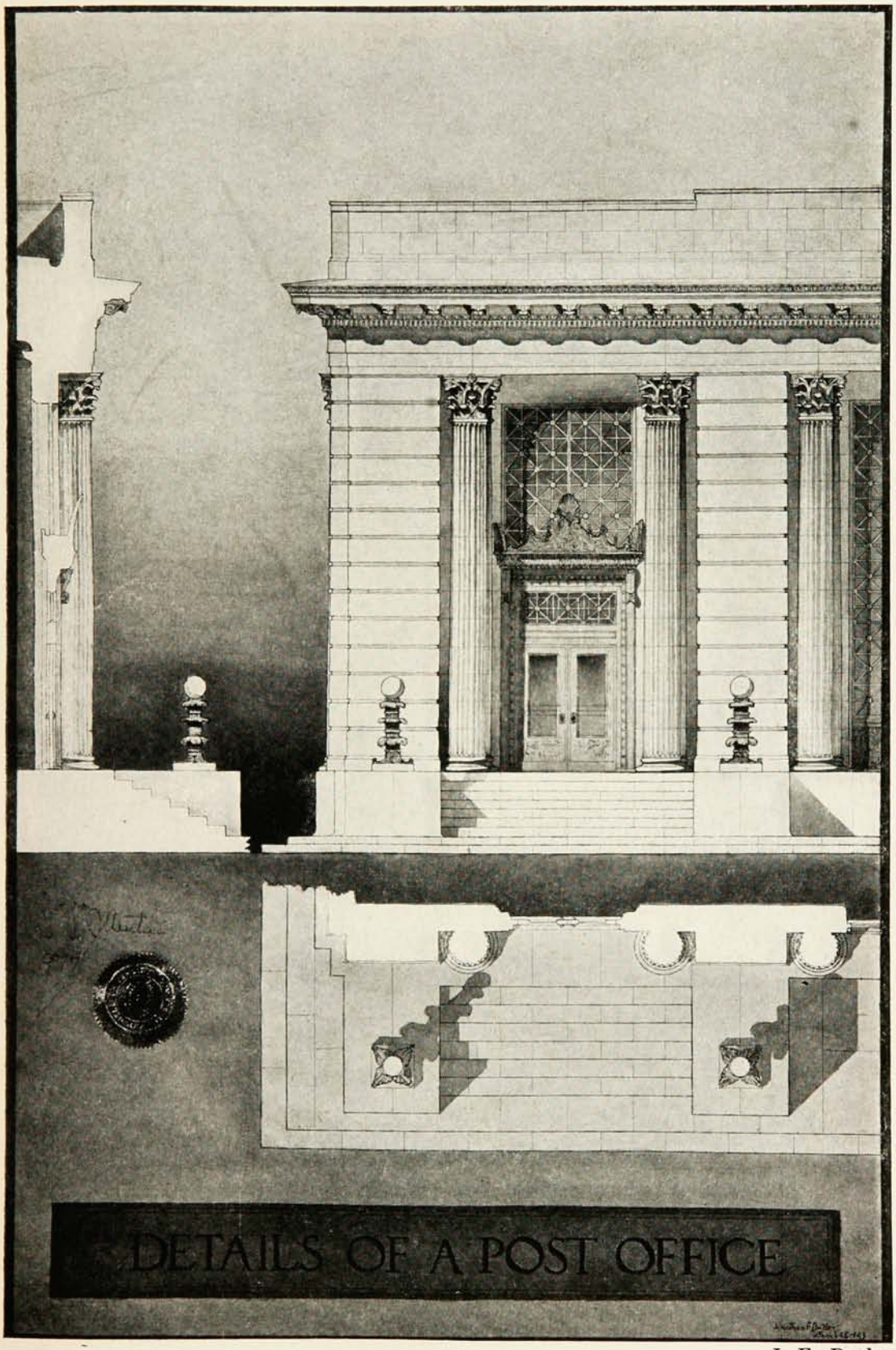
The elective hours required in any of the regular courses leading to a degree may be taken either within or without the College of Architecture, subject only to the approval of the professor in charge of such course and of the Dean of the College of Architecture.



A PART OF THE FREEHAND DRAWING STUDIO

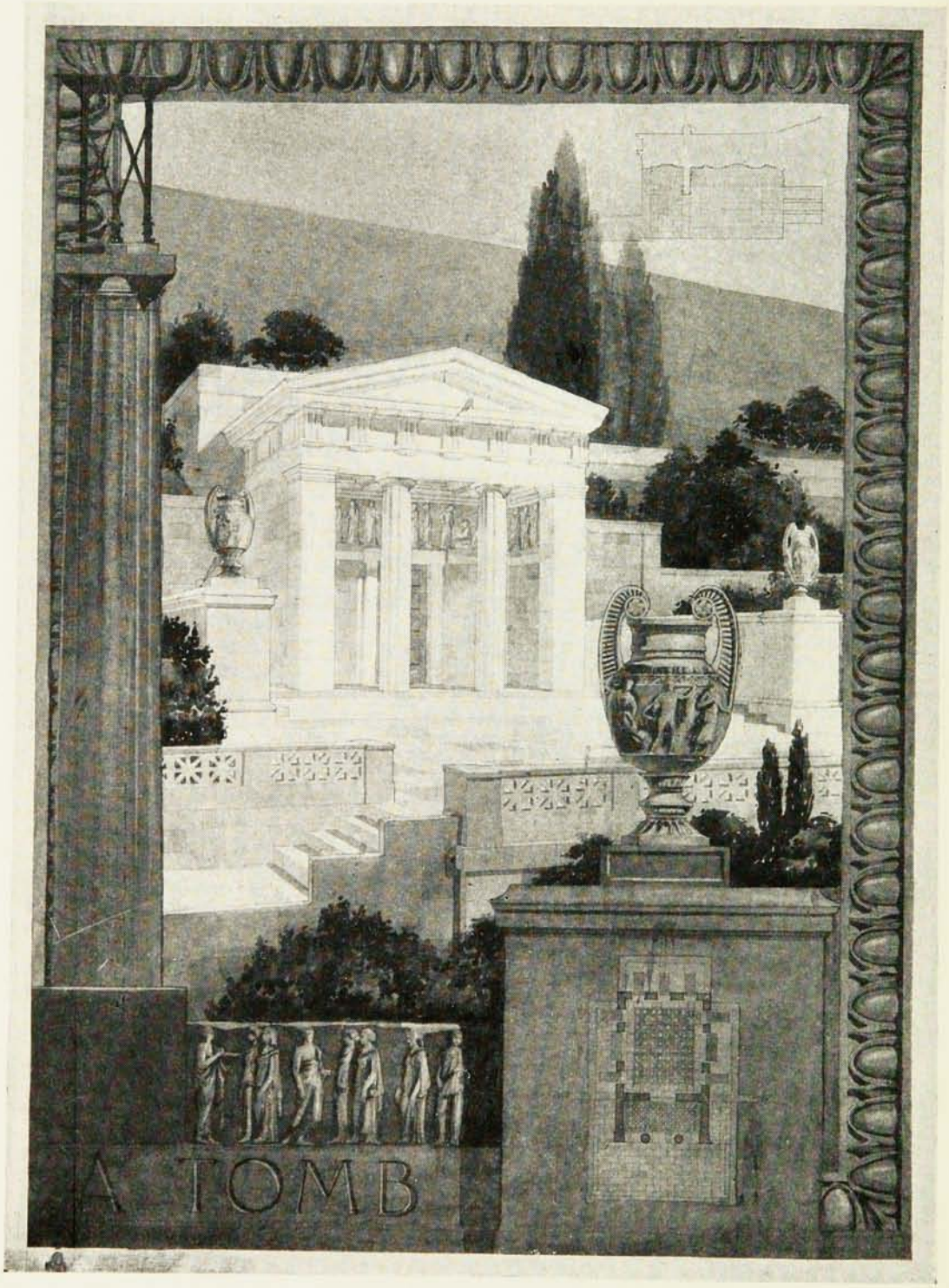


THE MAIN DRAFTING ROOM IN WHITE HALL



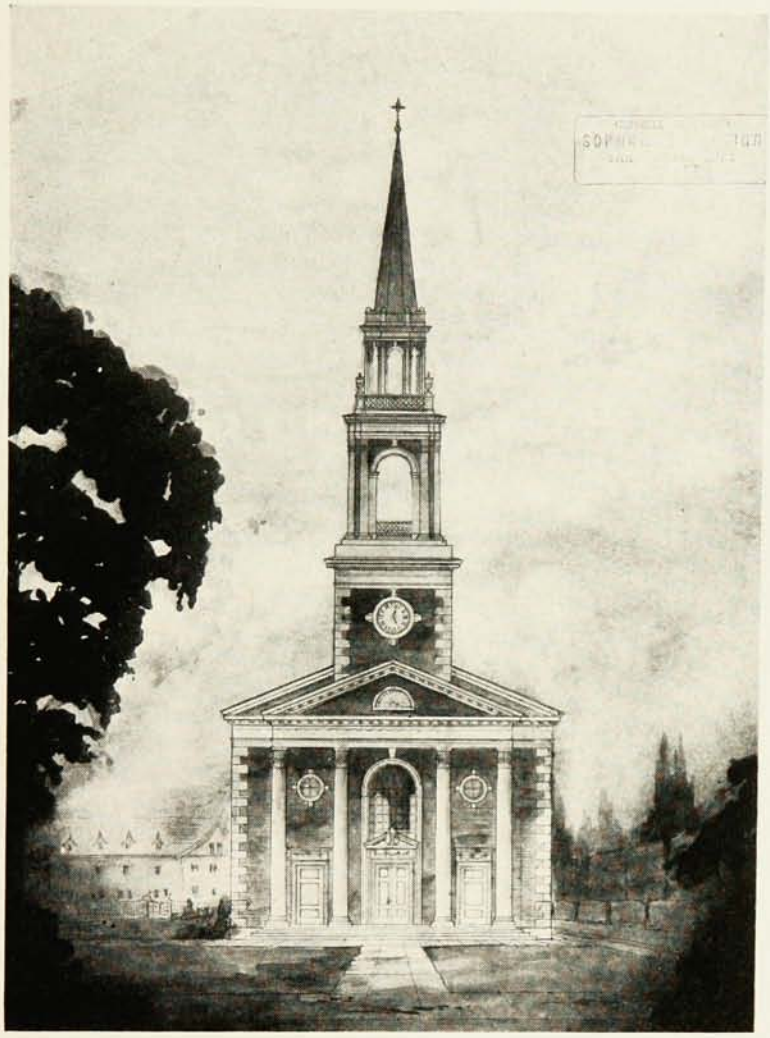
J. F. Butler

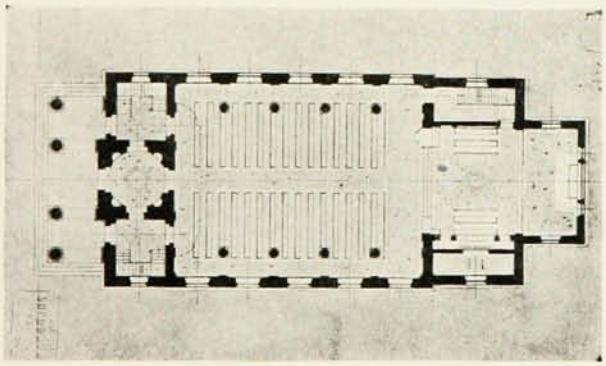
ELEMENTARY DESIGN



A Hillside Tomb *Miss D. F. Levy*

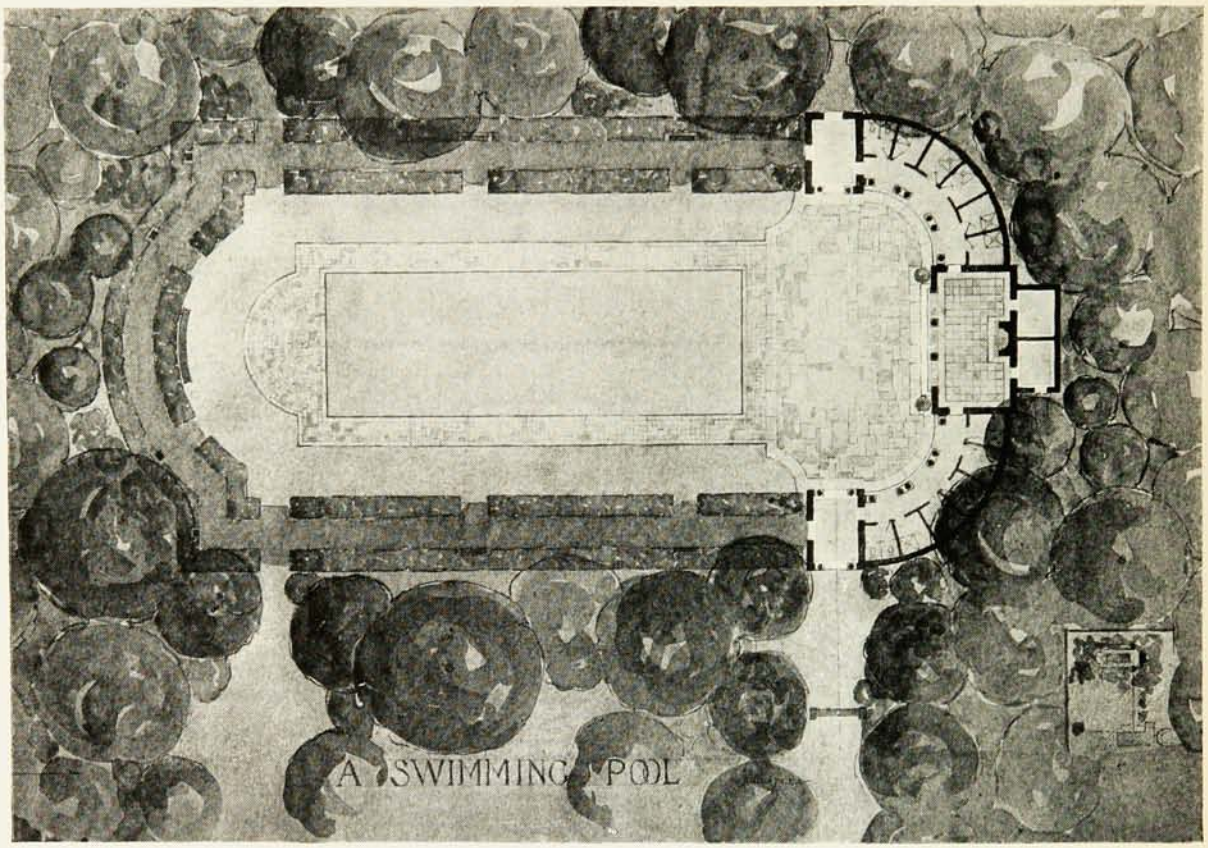
INTERMEDIATE DESIGN: PROBLEM IN ARCHAEOLOGY





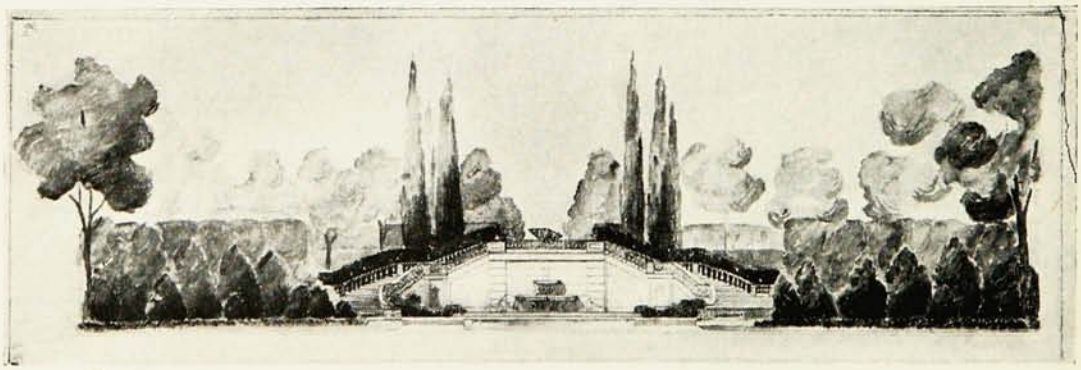
A Small Church *H. O. Chapman, jr.*

INTERMEDIATE DESIGN



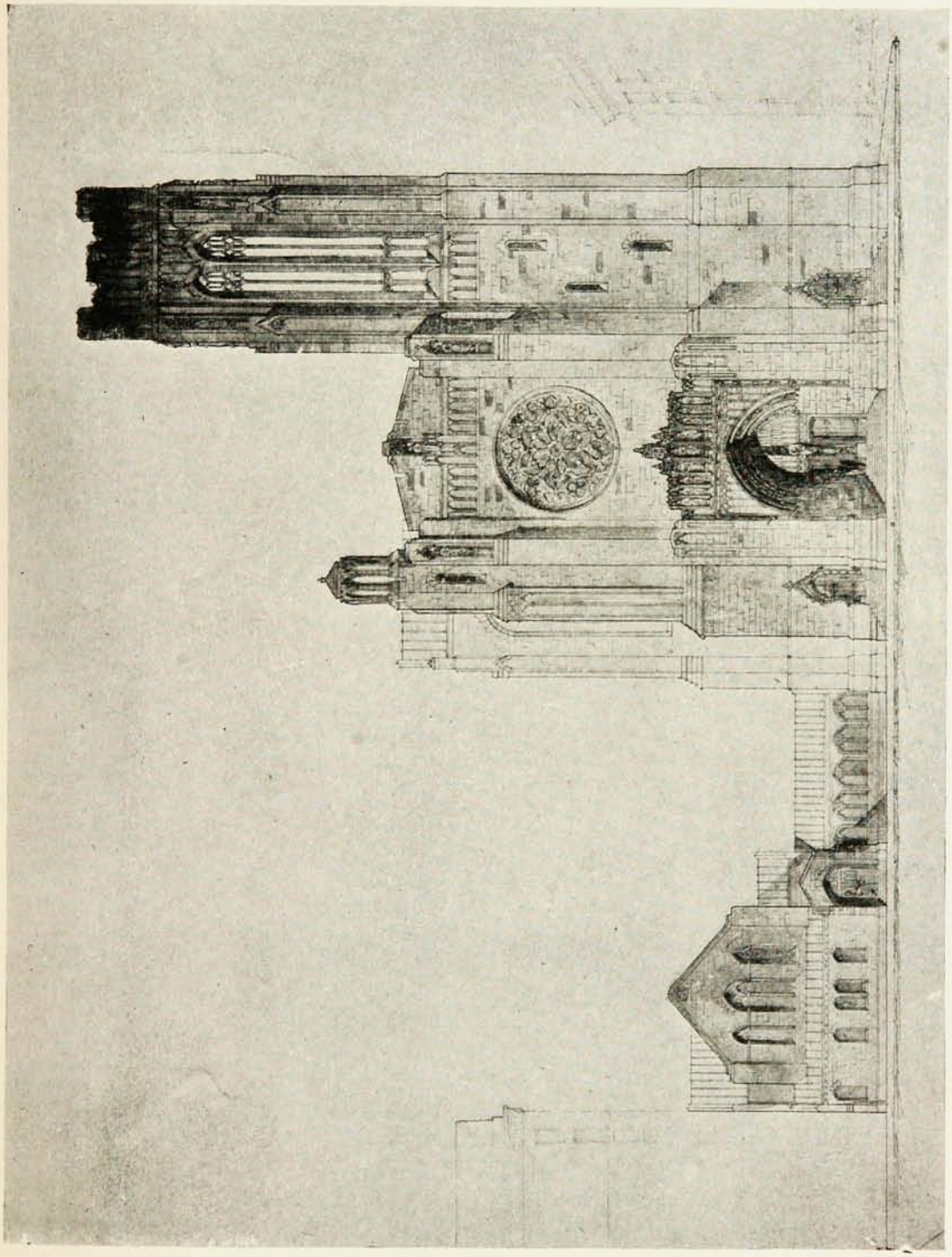
A Swimming Pool *Miss M. B. George*

ADVANCED DESIGN: JOINT ARCHITECTURAL AND LANDSCAPE PROBLEM



A Stair *T. J. Baird*

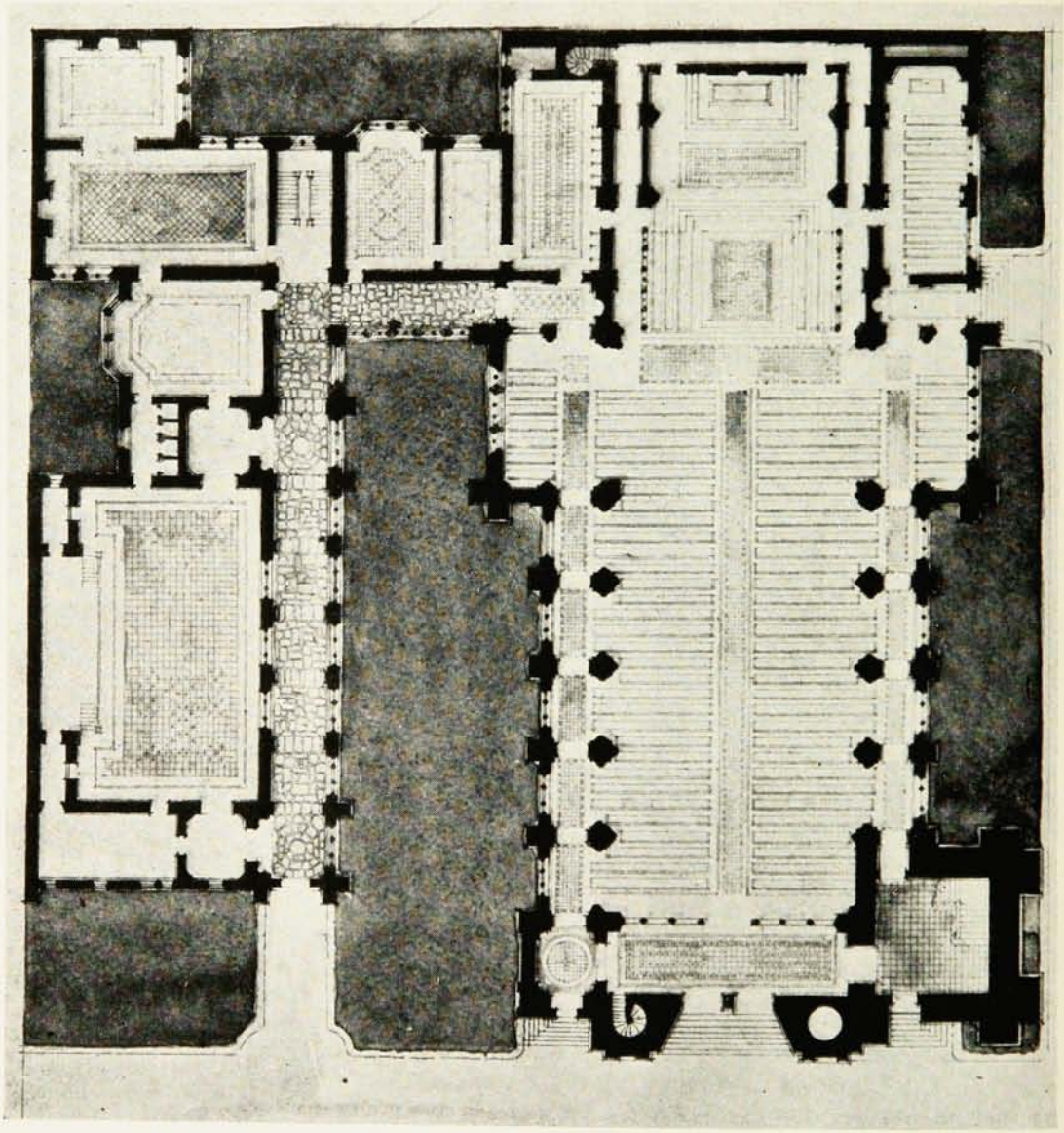
INTERMEDIATE DESIGN: JOINT ARCHITECTURAL AND LANDSCAPE PROBLEM



A City Church Group: Elevation

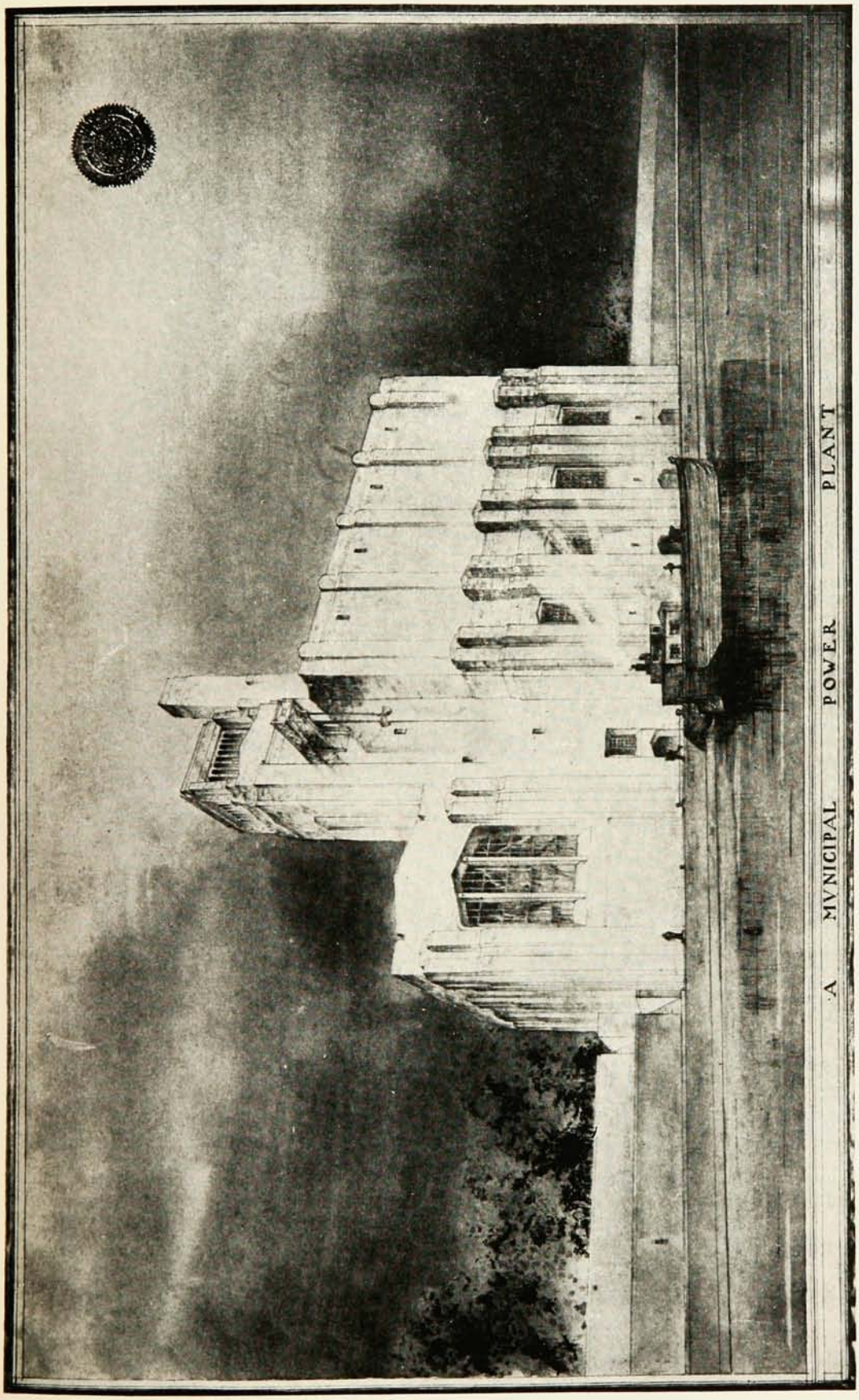
INTERMEDIATE DESIGN

Irvin L. Scott



A City Church Group: Plan *Irvin L. Scott*

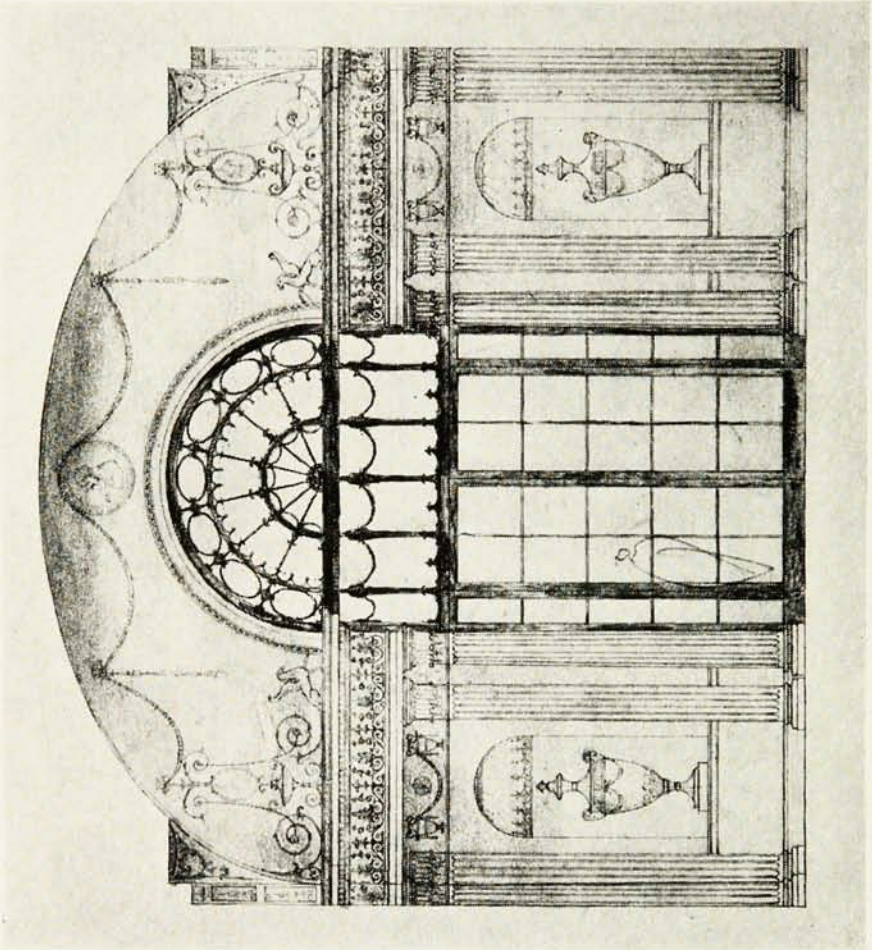
INTERMEDIATE DESIGN



P. B. Nichols

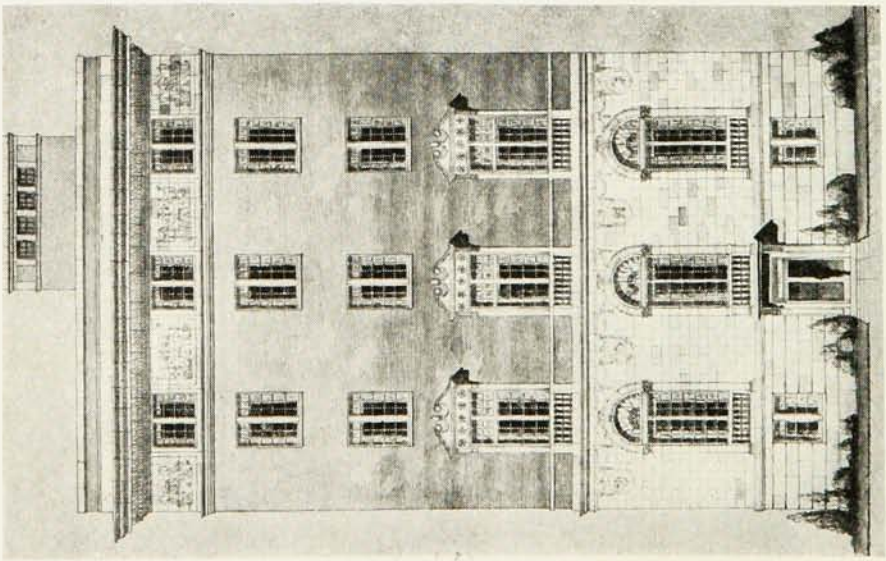
Perspective

INTERMEDIATE DESIGN



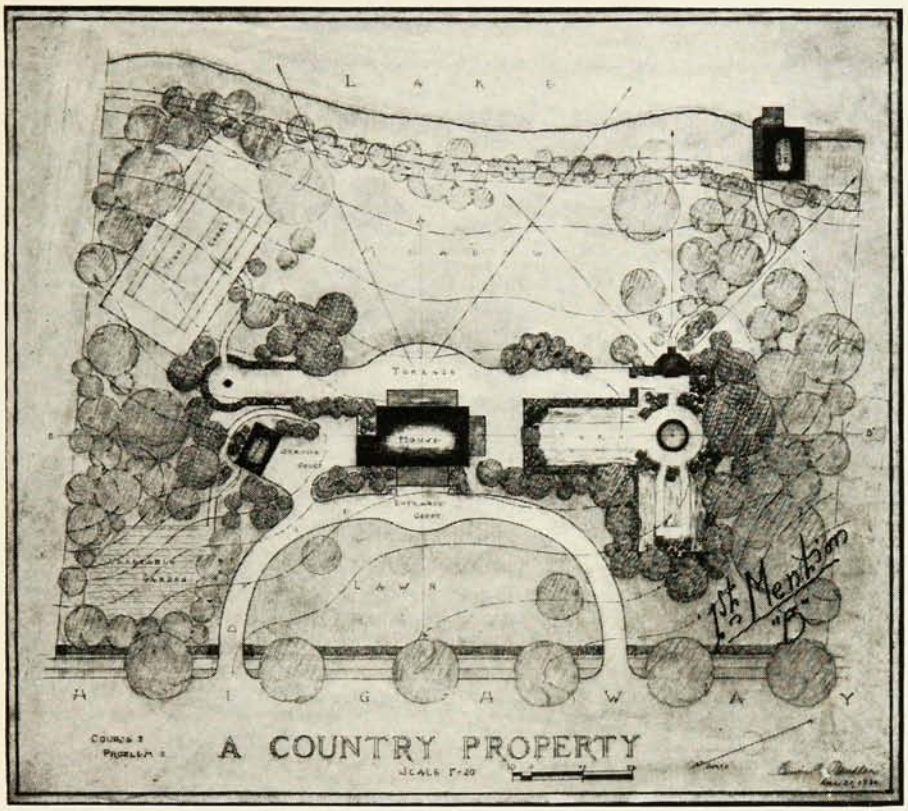
A Theatre Foyer *F. R. Steffens*

DECORATION



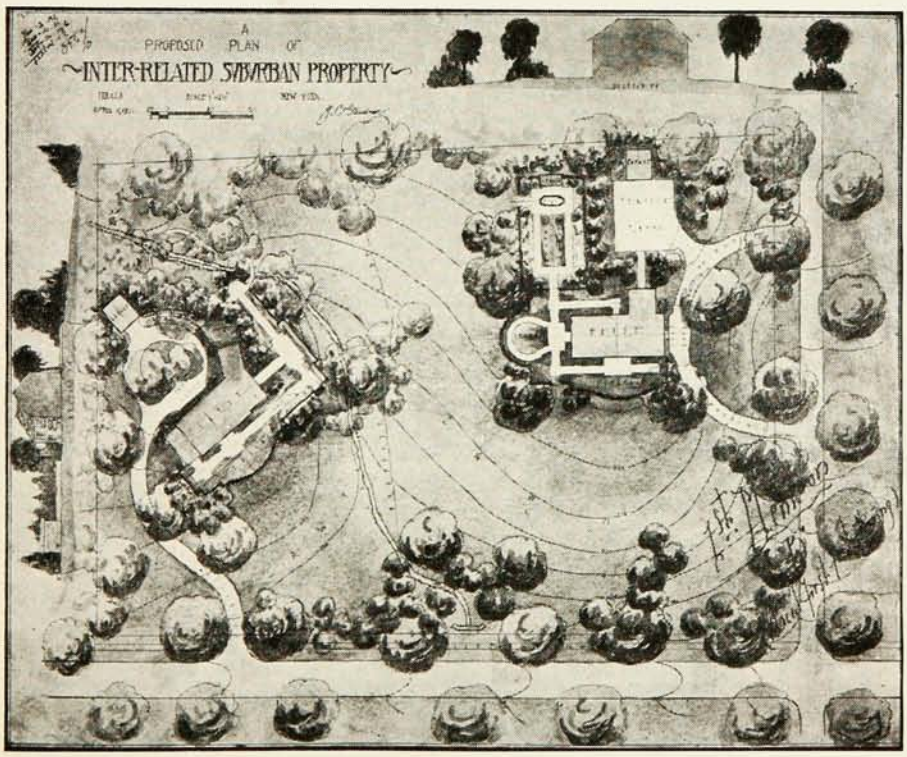
Façade of a University Club *G. B. Howell*

INTERMEDIATE DESIGN



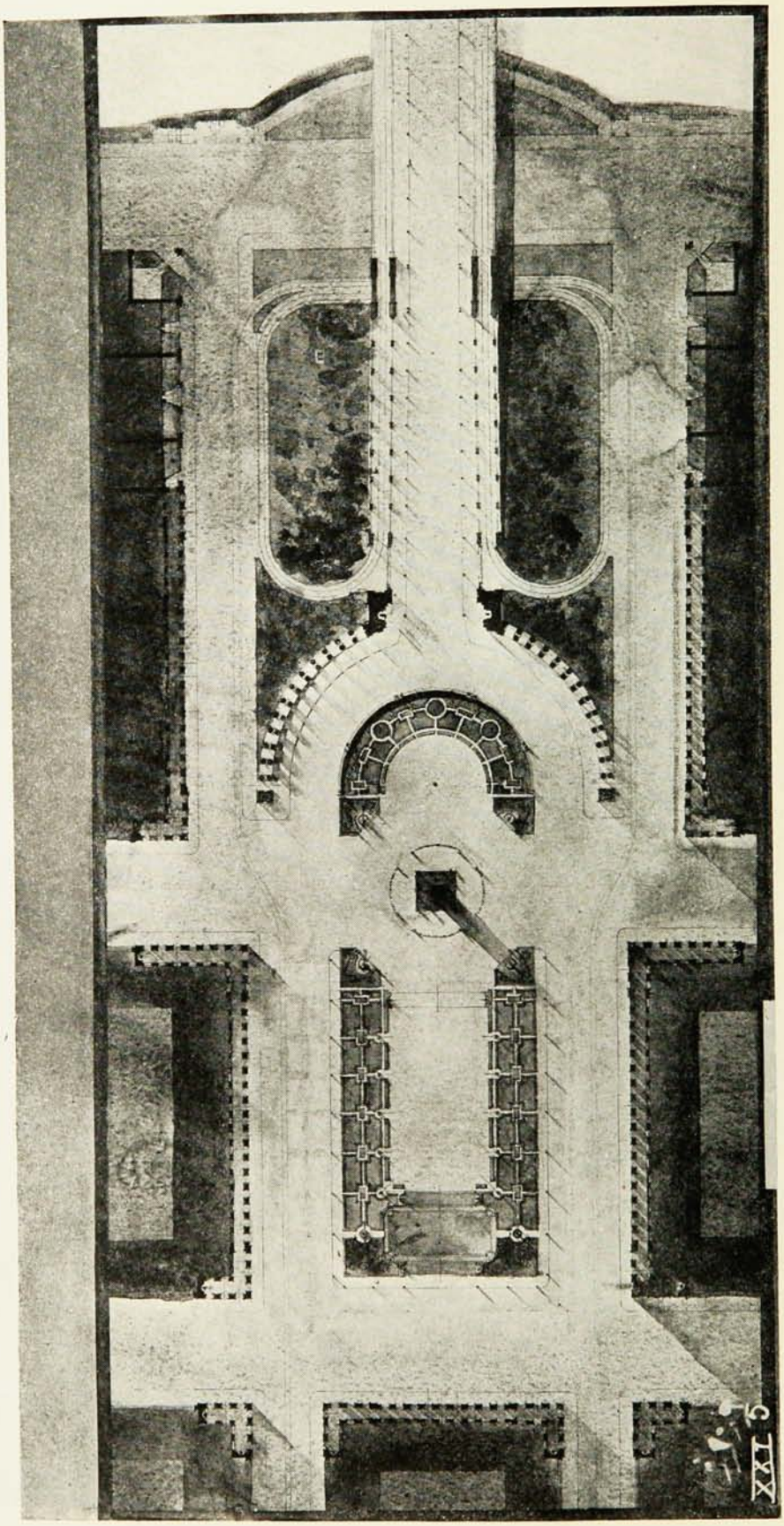
A Small Residential Estate *Erwin T. Muller*

ELEMENTARY LANDSCAPE DESIGN



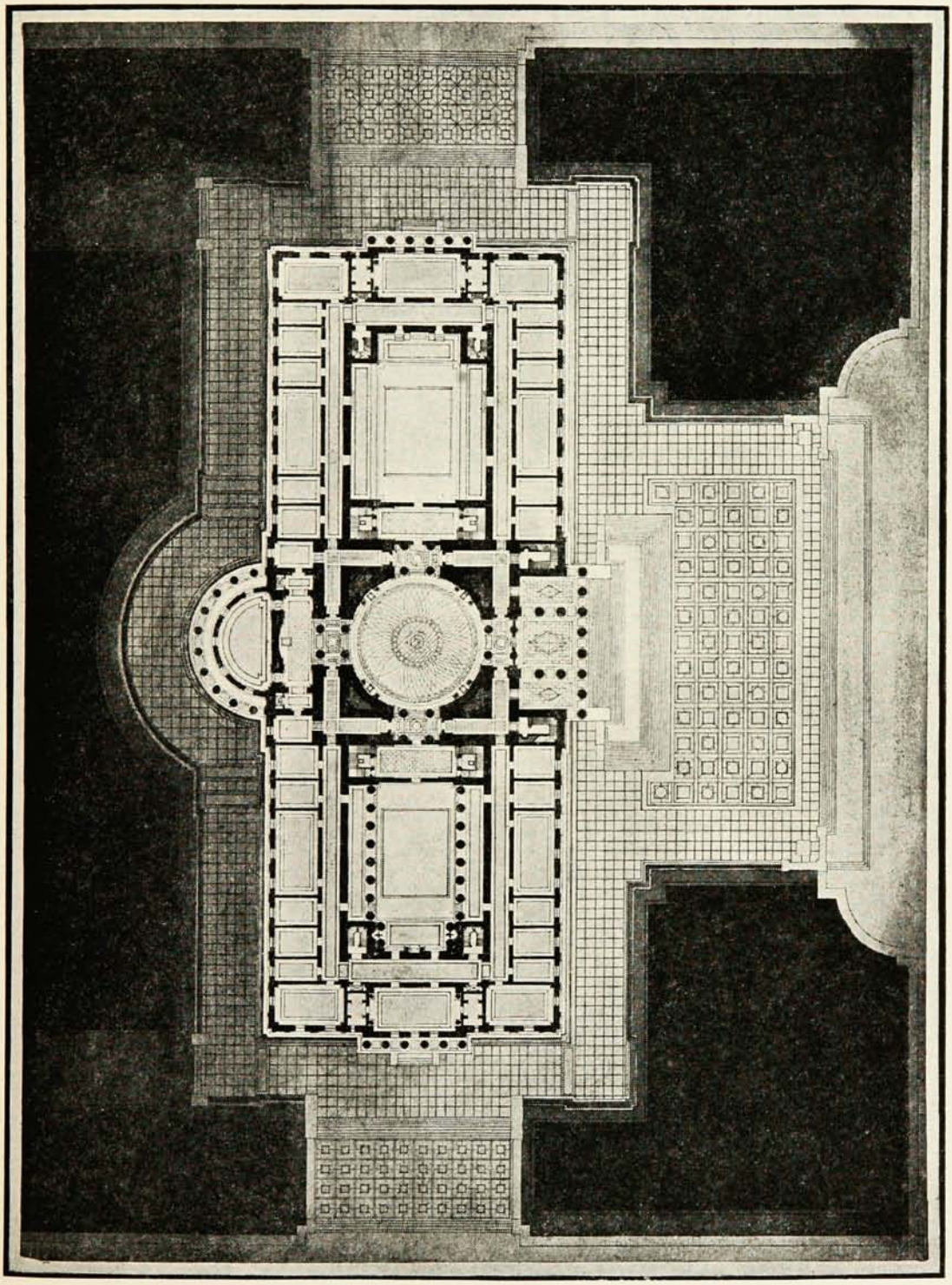
Residential Properties *J. C. Gardner*

INTERMEDIATE LANDSCAPE DESIGN



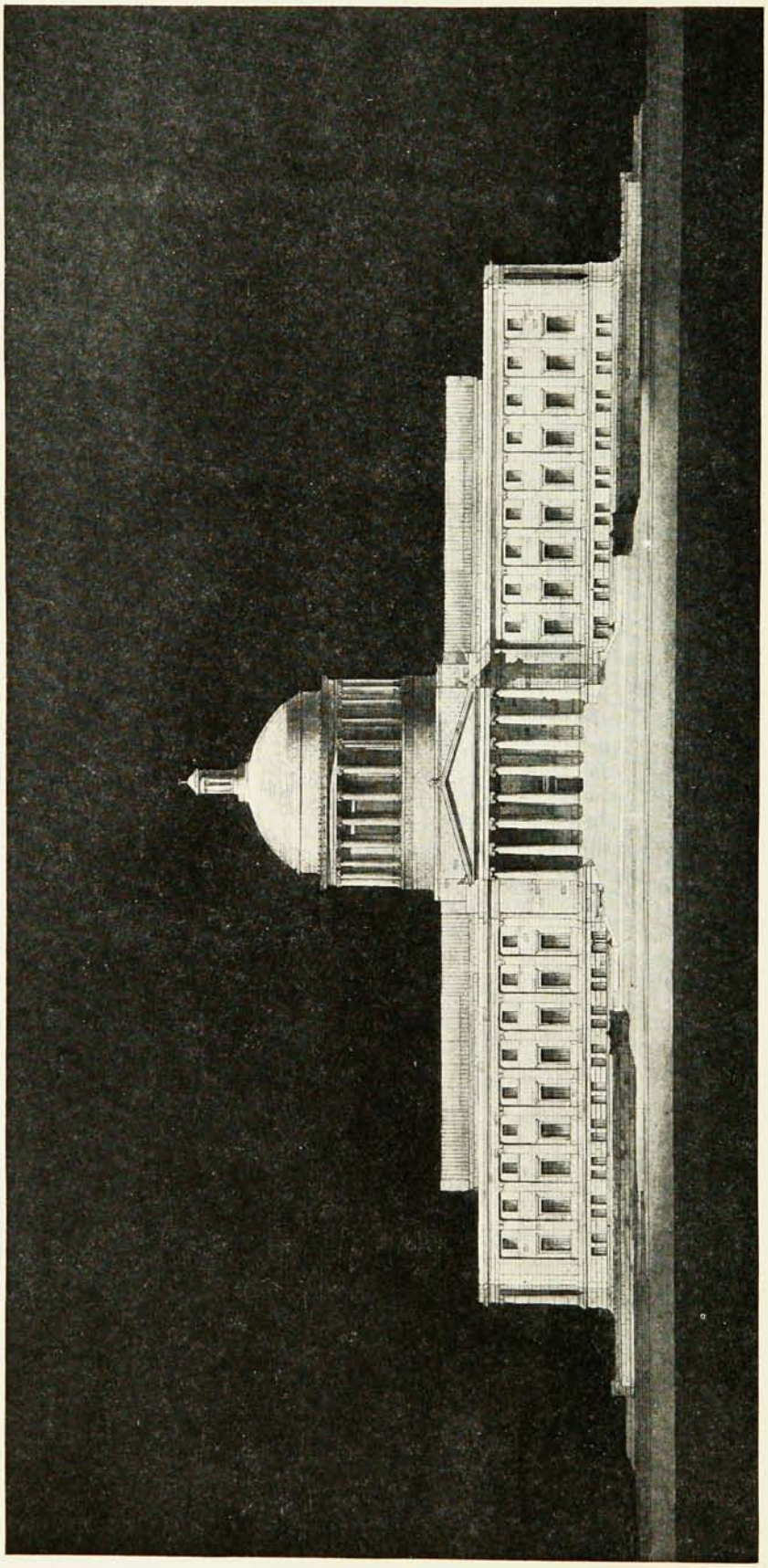
A Bridge Plaza *Verne Swan*

ADVANCED DESIGN



A State Capitol: Plan *H. O. Chapman, jr.*

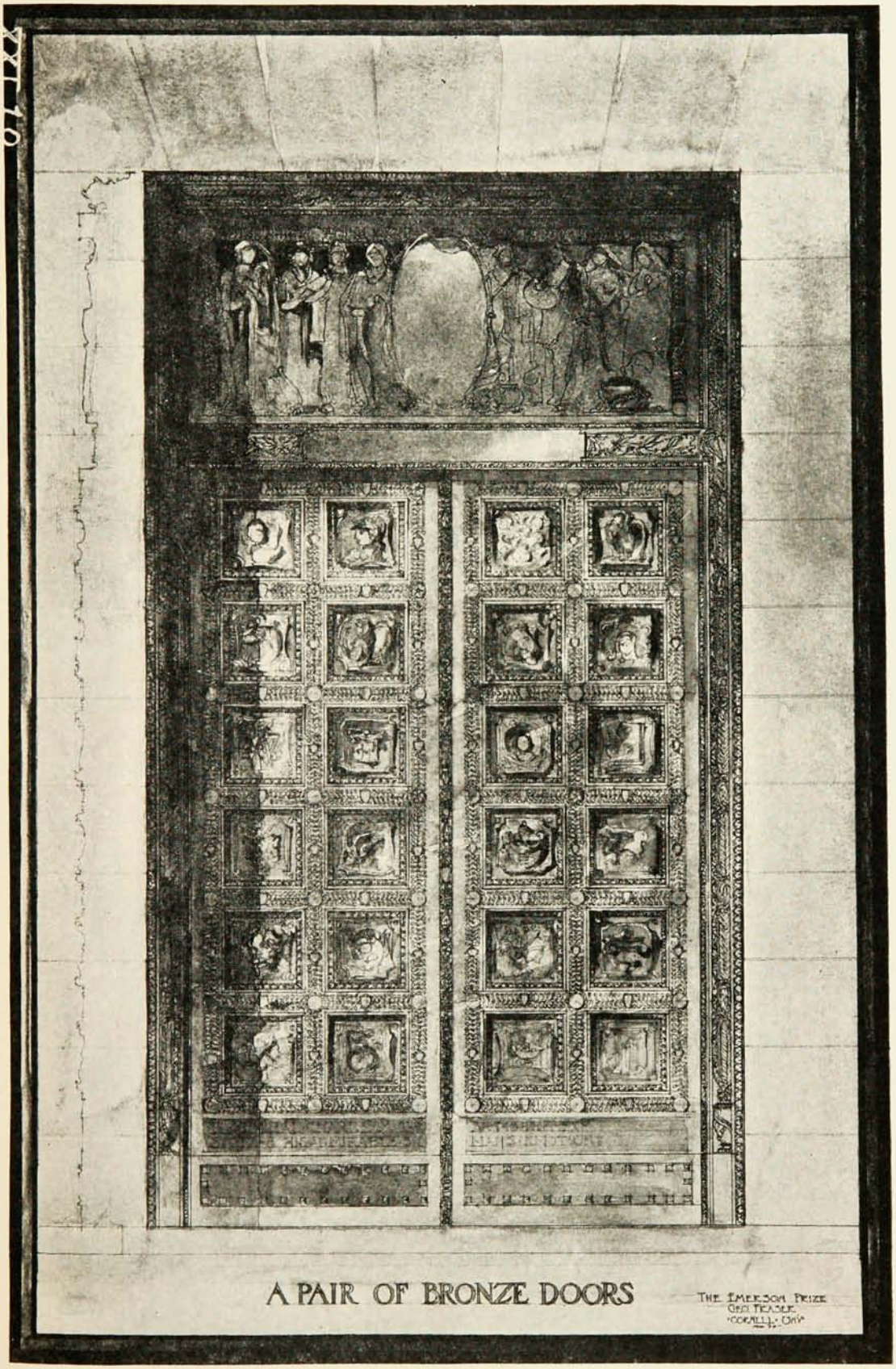
THESIS



A State Capitol: Elevation

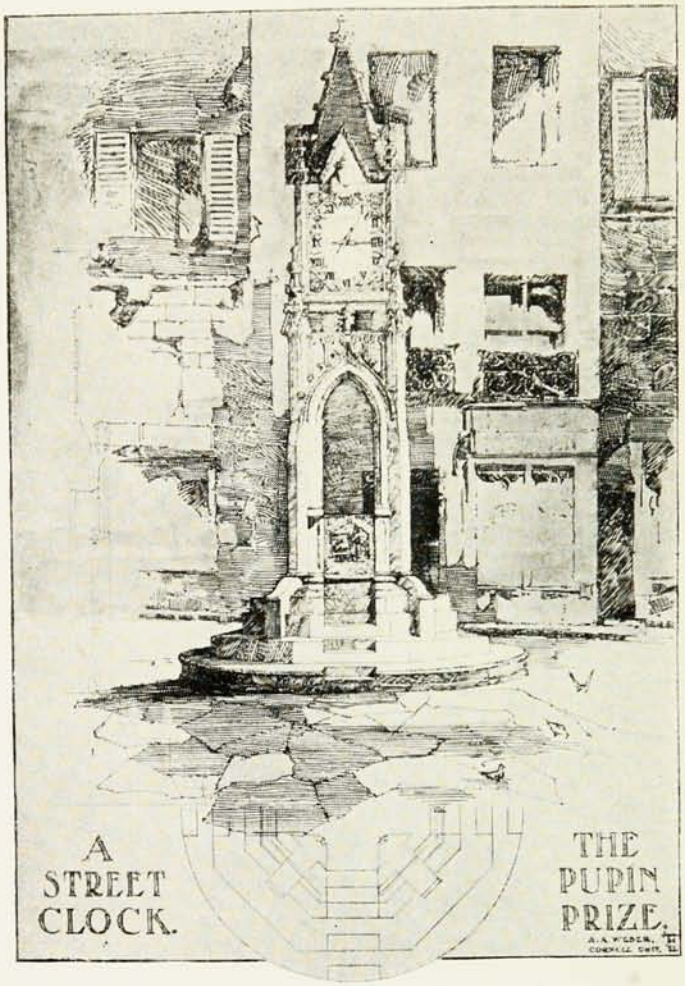
THESIS

H. O. Chapman, jr.



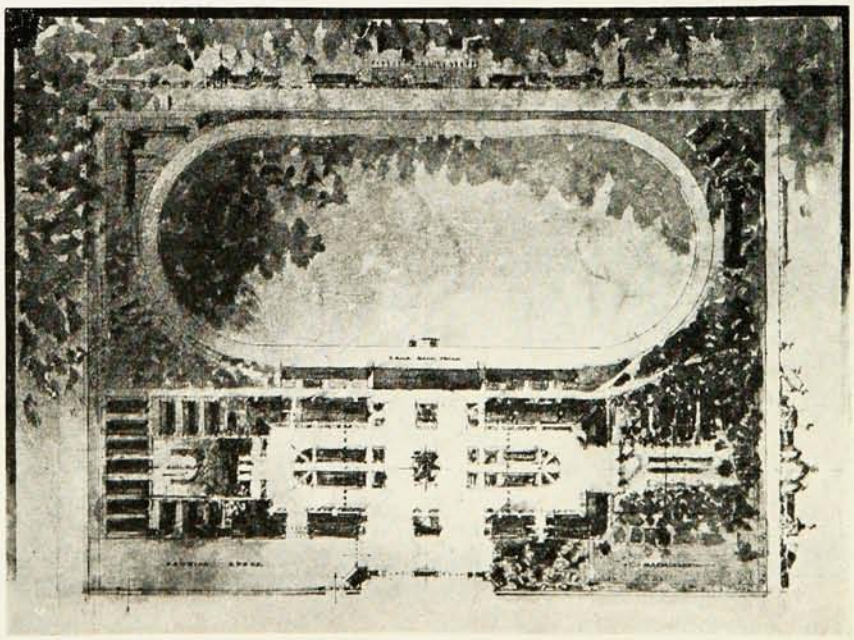
A Pair of Bronze Doors *George Fraser*

ADVANCED DESIGN



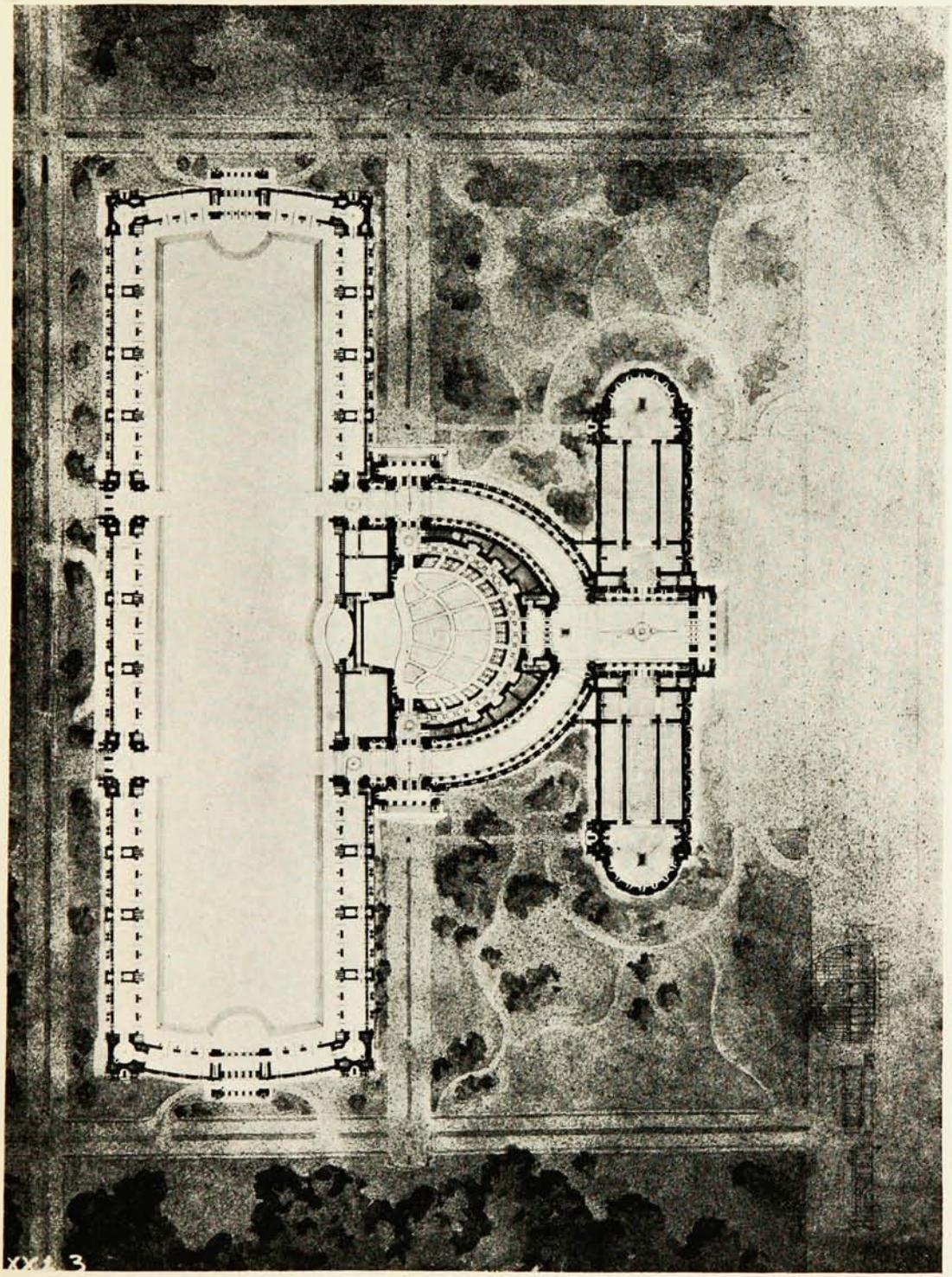
Pupin Prize, 1921 *A. A. Weber*

ADVANCED DESIGN: TWO DAY SKETCH PROBLEM



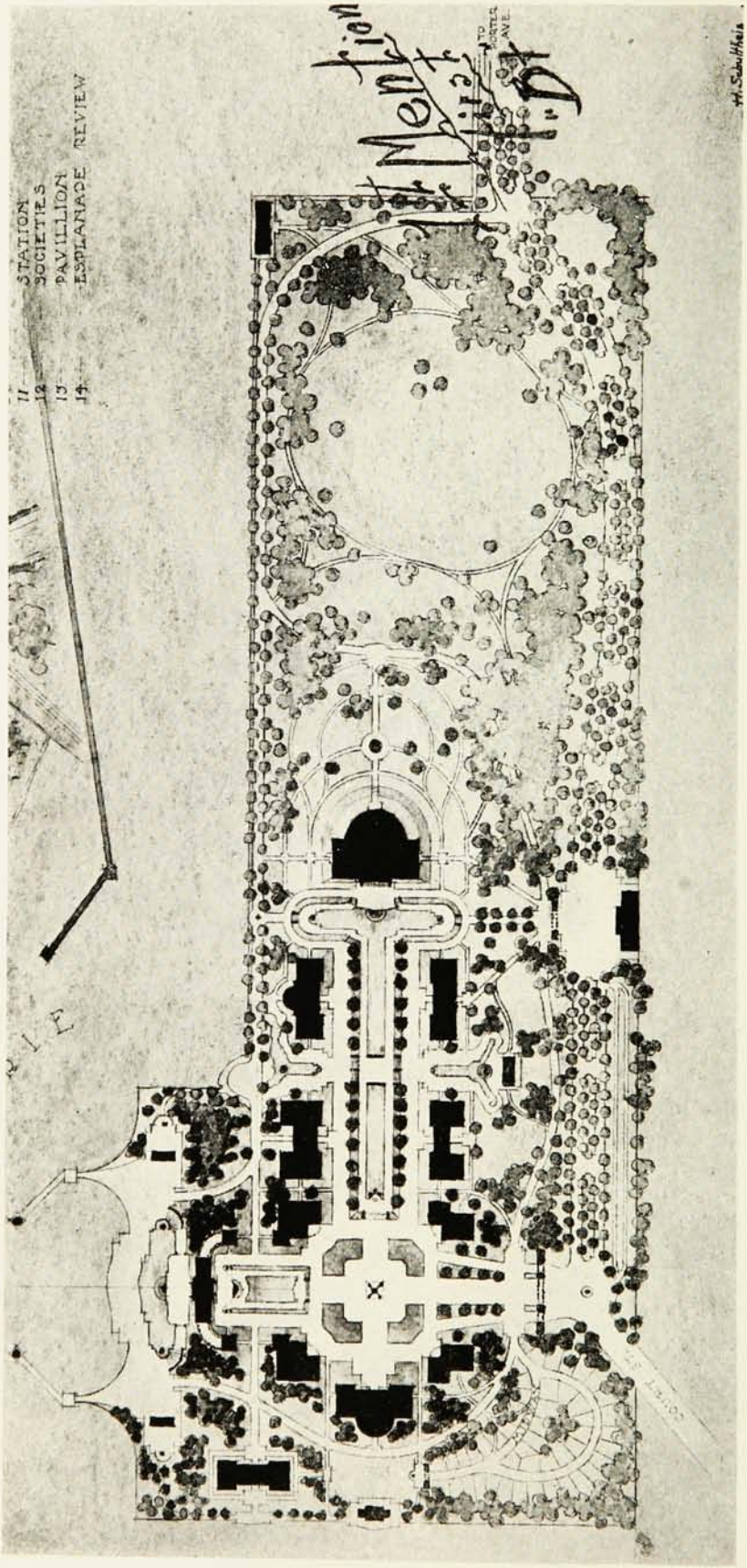
A County Fair *George Fraser*

ADVANCED DESIGN: THREE DAY SKETCH PROBLEM



An Exposition Building *Kenneth Carver*

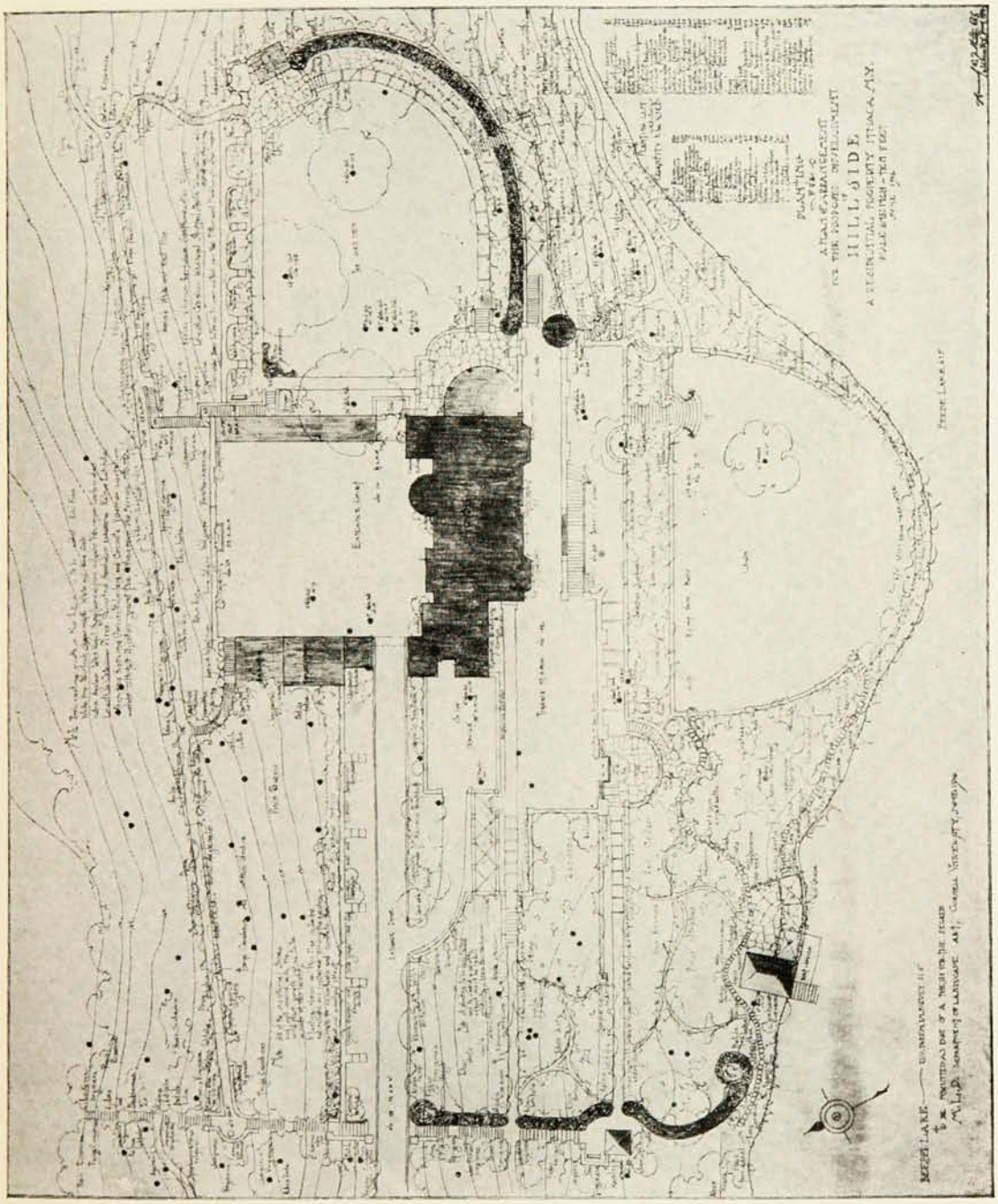
ADVANCED DESIGN



A Civic Exposition

ADVANCED LANDSCAPE DESIGN

Henry Schultheis

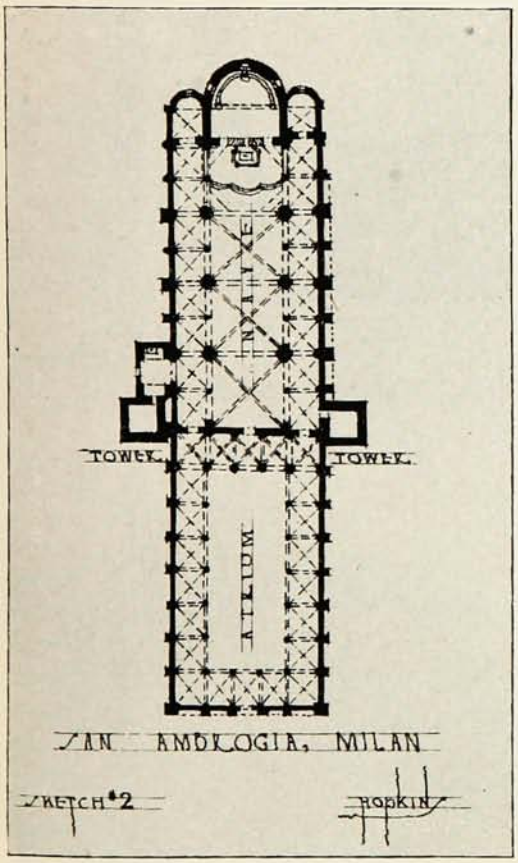


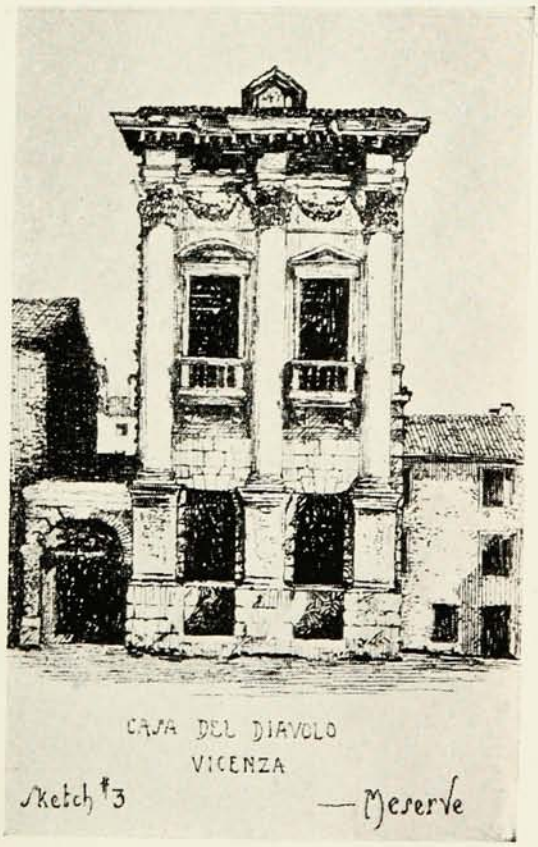
Planting Plan *A. R. Tibbitts*

ADVANCED LANDSCAPE DESIGN

A Residential Property *Francis C. Seyfried*

LANDSCAPE THESIS

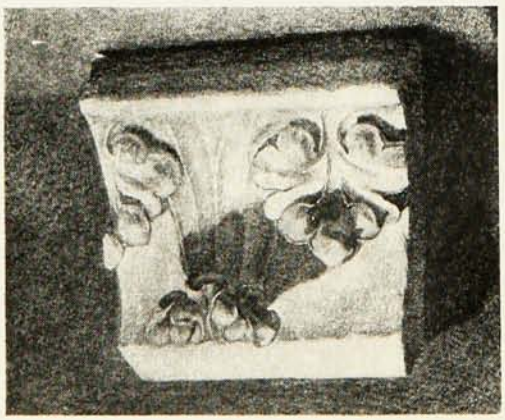




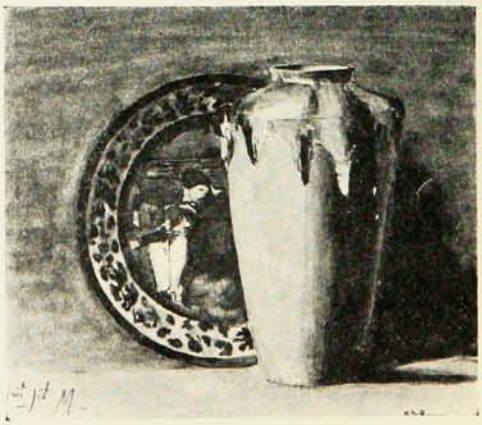
SKETCHES:
HISTORY OF ARCHITECTURE

Woodcut *J. E. Everett*

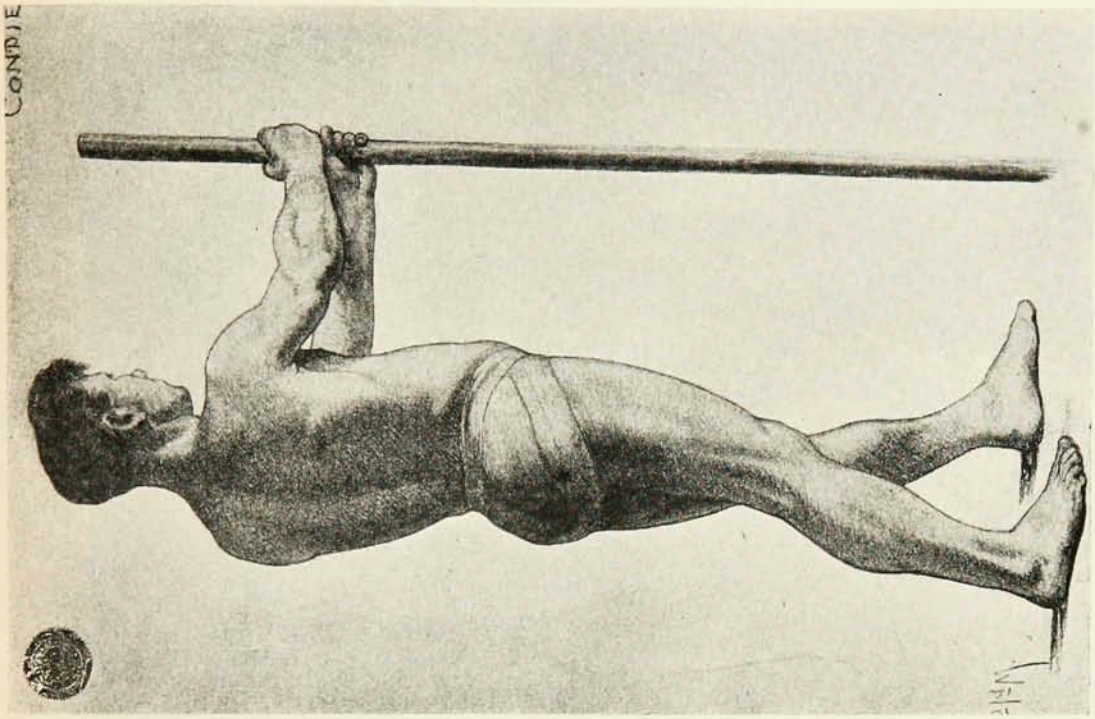
GRAPHIC ARTS



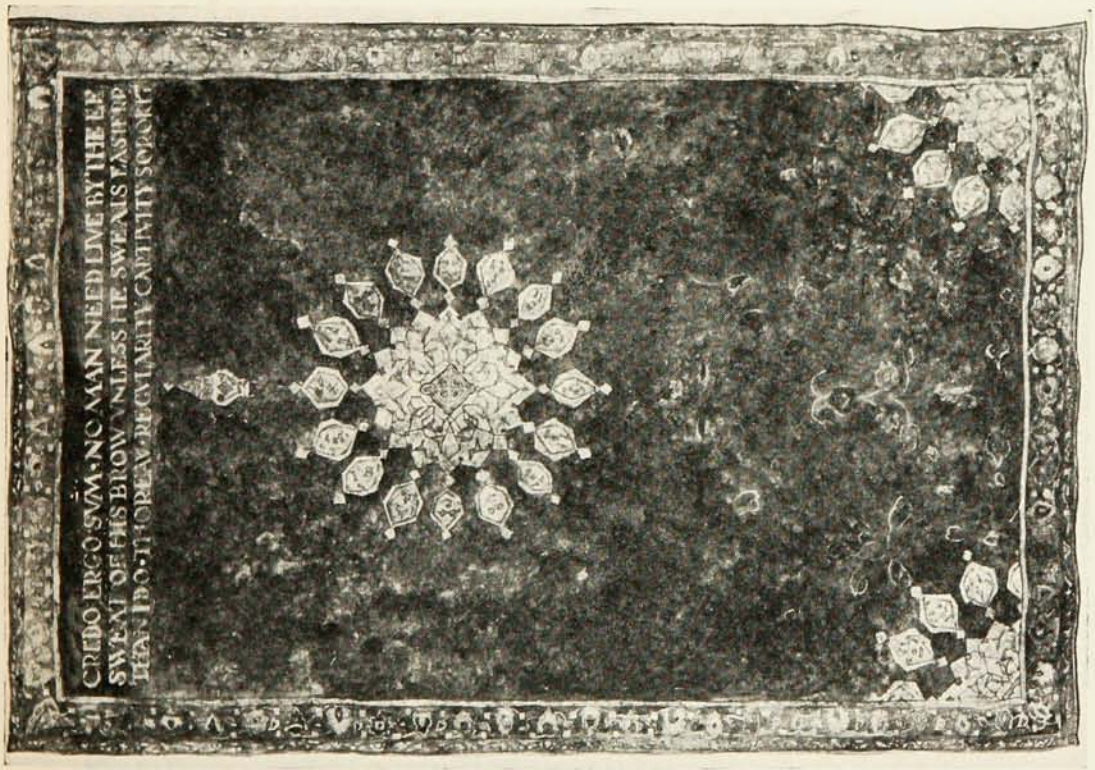
ELEMENTARY DRAWING FROM THE ANTIQUE



WATER COLOR

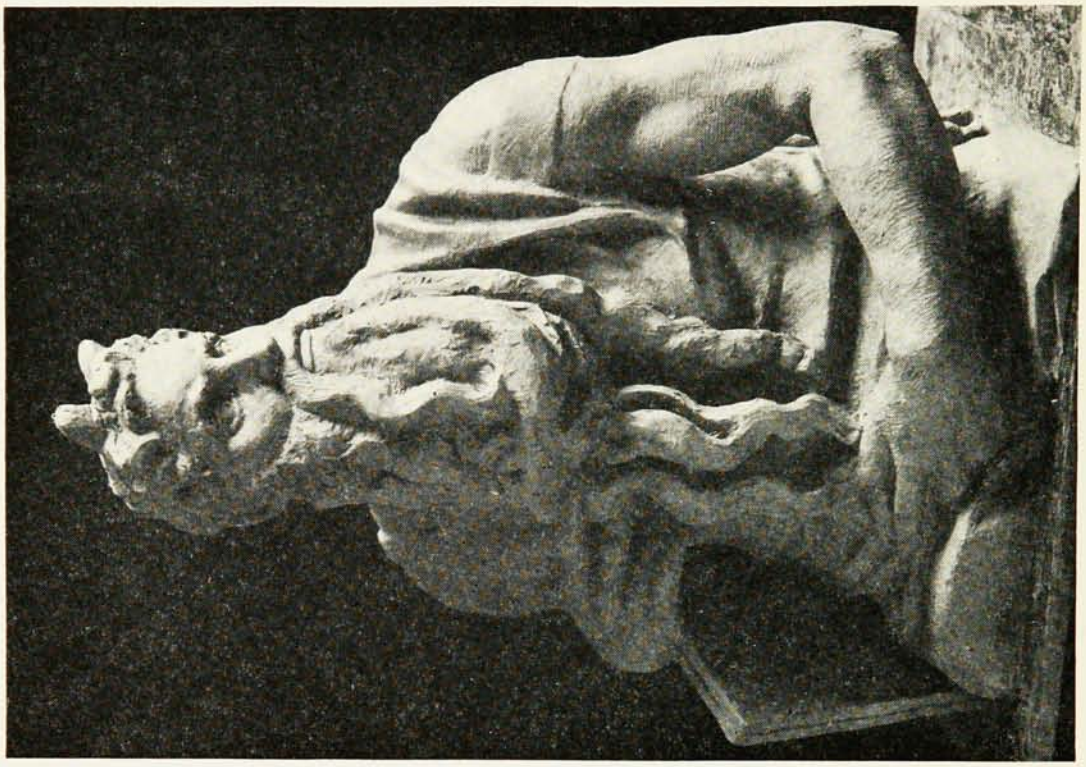


D. K. Condie
DRAWING FROM LIFE



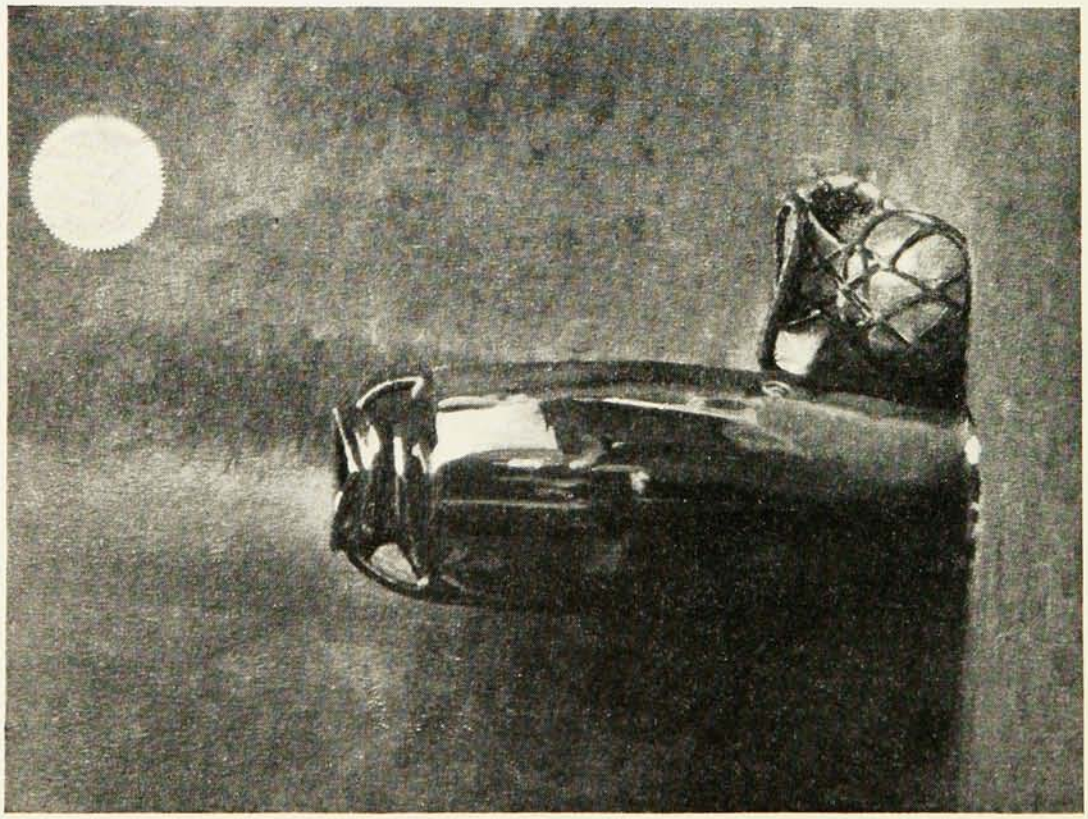
A Rug

Miss Ruth Seymour
COLOR COMPOSITION



Clayton Frye

MODELING



Charles W. Drew

OIL COLOR