

AMERICAN INSTITUTE OF ARCHITECTS.

INCORPORATED 1857.

PROCEEDINGS

OF THE

THIRD ANNUAL CONVENTION

OF THE

AMERICAN INSTITUTE OF ARCHITECTS,

Held in New York, November 16th and 17th, 1869.



PUBLISHED BY THE COMMITTEE ON LIBRARY AND PUBLICATIONS OF THE
AMERICAN INSTITUTE OF ARCHITECTS,

AND SOLD BY WESTERN & COMPANY, 37 PARK ROW, NEW YORK.

1870.

PRINTED AT THE OFFICE OF THE NEW YORK EVENING POST,
41 Nassau Street, corner of Liberty.

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The Discussions included in these Proceedings are transcribed from the *verbatim* report made for the Institute, by Mr. JAMES E. MUNSON, Stenographer.

THIRD ANNUAL CONVENTION

OF THE

AMERICAN INSTITUTE OF ARCHITECTS,

HELD AT THE ROOMS OF THE NEW YORK CHAPTER, ON TUESDAY, THE 16TH, AND WEDNESDAY,

THE 17TH OF NOVEMBER, 1869.

TUESDAY'S PROCEEDINGS,

AFTERNOON SESSION.

At a few minutes past three o'clock, P. M., the Convention was called to order by the President of the Institute, Mr. RICHARD UPJOHN.

The President, Mr. RICHARD UPJOHN, then read the following address:

ANNUAL ADDRESS OF THE PRESIDENT.

Gentlemen of the Institute and Fellow Architects:

The occasion which brings us together is the Third Annual Convention of the American Institute of Architects. We have already held two Conventions under the regulations whereby the Institute became a more effectually national body than it had been before the year 1867. From the time of the organization of the Institute in 1857 to that time, it had been practically a local society, and though called the *American* Institute of Architects, the only claim it could make to a national character was the existence of the non-resident members in various places outside of the City of New York, who paid half the contributions of resident members. But, with the reorganization in 1867, commenced our existence as a national association with local Chapters. The two Conventions already held, had less of the character of Conventions than of annual business meetings. They were but experiments with a new order of things. It has been

our desire that *this* Convention should be something more than a business meeting, and should assume importance as a National Convocation of Architects. To this end we have invited every practicing Architect in the United States to meet us here and consult with us over measures for the common good. For, if the Institute is to be respected by the community and is to wield an influence, it must represent the opinions of the best disposed men of the whole profession. To those, therefore, who have chosen to accept our invitation, I extend a cordial welcome. To you, gentlemen, and the members generally, I will say, that I congratulate you all upon the return of this event, and earnestly hope that it may result in much good to the profession generally, and to the community with which it is in relations of mutual support. Before proceeding with our business, I beg leave to offer a few suggestions bearing upon these relations, and our duties to the community and to ourselves.

To consider the past, to provide for the present, and to order the future, are the principal objects of this meeting.

What has the past year produced? I mean, what works worthy of note have we laid before the public? Have the steps which we have taken in our professional labor been such as to entitle them to

be called steps in advance? The agriculturist, the farmer, the tiller of the soil has sown and reaped, and garnered his treasures; his industry has given him the means of life; his stores have been beneficial to himself and to his neighbors far and near. Now, consider for a moment what each one of us has done to further the real and true interest of *our* profession. When an occasion for the employment of our professional skill has been offered to us by a client, when he has proposed the fee, have we reckoned as one about to speculate? and, in the phrase of such as do, concluded, on examining the premises of the case, that there is not much "money in it?" or perhaps, that there is *some*, but not much profit in it? Now, this is well for the man who buys and sells. Of course he must do so. If he did not, the world of commerce would be upset, and everything connected with it thrown into confusion. My friends, we are differently situated. Our merchandise is our brain; we sell ideas, creatures of the brain. Necessity, common to all alike, compels us to put a price on it; for we must have sustenance or we shall have no brain. It is one of our duties *to ourselves* to see that no anxiety in regard to sufficient means for support shall interfere with the development of our ideas and the proper supervision of our work. But, if we go so far beyond this necessary provision that the greed for gain is greater than the will to do what we conscientiously believe to be right, then our labor is worse than useless. No degradation can be worse than that of the professional man who allows this principle to rule his action. It is useless for him to say that he takes a mercantile view of his business, and that what is honorable for a merchant is right in himself.

It may be honorable for a merchant to take certain advantages, but to a professional man, the same practices are base.

All that we ask is, that competition for the work of our brains shall not be put on a monetary basis. To this end we have endeavored to establish uniform rates of charges in the profession. It has been represented that we are a trades union—trying to put up the prices. On this point we have been much misunderstood. There can be no substantial success in a profession in which the practitioners are underbidding one another, either as concerns the work done—and in this the client

is interested—or the personal profit of its members. In its practical working our system does no one injustice. The amount of employment goes according to reputations. Those having the best get the most work, of course, but yet all get a share; and I conceive that it is better, on the whole, for the young Architect, to do a few works and be well paid for them, than to do many for little or no remuneration. The few may be well done and may add much to his reputation; the many may be badly done, may consume all the valuable time he might devote to recreation and study, exhaust his limited resources, and injure his reputation at the start.

But other temptations beset us. A vision is presented to us in the form of a noble building—one that is to last for all time looms up in our imaginations. It may be a Mirage, which generally is upside down, and not very flattering. But still it is so; and so far as we can discern, there is not much to see after all. But a closer view of the matter promises to us a more truthful prospect, and we see clearly that there is some reality in it. Now, how far are we disposed at this point of the proceeding, to maintain our judgment unprejudiced, so that we may have the moral courage and strength of will to aid each other in standing up for good sound practice. Do we at such times unite to establish precedents which may serve as the bases of official action on the part of the Institute in the formation of rules for the guidance of the profession, and thus aid in establishing our Institute upon a sound substantial foundation? Do we not, on the contrary, often weaken it by countenancing parties who are anxious to obtain the good labors of clever men, but who, when seeking such help, go from office to office, with an offer in their gracious palms, and deal out their allowance to some one whose nerves are not sufficiently strong to withstand the allurement. There can be no doubt in any candid mind that the man who undertakes a work on any terms offered him, from fear of losing it altogether, and the other one, who takes orders on low terms because he "sees money" in them—and the two are often combined in one—are doing all that they can to break down the reputation of the profession. Such is the way in which to lose our respectability, our dignity, as professional men. In maintaining the honorable

practice of the profession, which we profess to do in our constitution, we have as yet no specific rules. There is nothing to bind us to this but our moral relation one to another. We have no union for obliging any one to do otherwise than his conscience directs. Our bond is mutual, our interest social. We are fellows, companions meeting for the purpose of instructing each other; and our conversation here is for the benefit of the nation and the world. If, therefore, as the result of the deliberations of this convention, we think it well to frame rules for our guidance, let me urge you to consider them wisely, and not forget the great responsibility you undertake.

Our doings in the past are now a part of our history, and I think that we have reason to be proud of our record. Here in New York a most important work has been begun. The New York Chapter has formed the nucleus of a valuable Architectural Library. Valuable engravings, drawings and photographs have been collected by it. An opportunity has been, and is now open to any one in or out of the profession to add to the collection, and so further the onward course of that enterprising branch of our organization. The New York Chapter has shown the Architects of all other towns, places and cities, the way of establishing similar Chapters of the Institute throughout the country, all of which will be held together by a common bond of union in the American Institute of Architects.

We have all, during the past year, added more or less to the number of architectural works that we have given to the world. Have the additions been evident improvements on our former works? If so, then our efforts have not been in vain, and our studies have resulted in progress.

Much has been said by historians about the "dark ages" that for a time prevailed in Europe. I would that the reflection only of such darkness could but throw its rays once over our era of boasted light; I would that we might be guided by them in our endeavors to reproduce some shadows of the works of those times. It might then be seen that we are not destitute of the qualities possessed by those men who have left on record, in the purest of languages, written in stone, works which testify to lives of truth, and of earnest vital power: lives which, if lived over again, would be

destined to reproduce upon a greater area, works of a like character, truly elevating and ennobling to the present age. Had we not been favored by the reflection of such miscalled darkness, our present condition would have been darkness indeed. But happily, we have been led to search for true light, in what the world popularly calls darkness, and to investigate, in our rambles among the beautiful and wondrous combinations of art, the treasures bequeathed to us by our predecessors. Let us, therefore, be diligent in our search for truth; let us strive to accumulate, by every means possible, and with untiring energy, that knowledge which will give us the power to bequeath to future generations works, the contemplation of which will endue them with such wisdom, such strength and such clearness of perception, as will enable them everywhere to know the good from the bad, the false from the true, and the deformed from the beautiful.

The Vice-President, *ex-officio*, Mr. RICHARD M. HUNT, upon the request of the President, then took the chair.

The Secretary read the Annual Report of the Board of Trustees, as follows:

REPORT OF THE BOARD OF TRUSTEES.

At the Convention of the Institute, held Dec. 8, 1868, certain changes were made in the By-Laws of the Institute, which changes made necessary the election of a wholly new Board of Trustees in place of the former Board, of which former Board one member only was changed every year, apart from the members *ex-officio*. Mr. Upjohn and Mr. Hatfield, members *ex-officio*, and Mr. Dudley, whose term would have run to 1870, are however, members of the Board for this, as of that for the last term.

The Report of the Board read at the Convention of 1868, had been referred back to the Board of Trustees for amendment, in the clauses relating to Chapters.

At the first meeting of the Board following the Convention, the report was brought up for consideration in this particular, and was amended by the insertion of the word "new," so that the sen-

tence in question should read "as yet the Trustees are unable to report on the formation of any new Chapters."

In this form the Report of the Board for the term 1867-8, is appended to the present one, and the Trustees request the Convention to adopt it.

Early in the term, and under the instructions of the Board, the Secretary began correspondence with members of the Institute, and other Architects thought to be well disposed toward the Institute, in the towns and cities of the United States; and especially in the cities where it seemed practicable to establish Chapters at once. This correspondence was pursued actively throughout the winter of 1868-9; and the movement in favor of new Chapters of the Institute showed itself most active in Philadelphia and Chicago. Affairs in Boston were and are exceptional, as an active society of architects, strong in numbers and not wanting in the right spirit, has existed there for several years.

At the very outset the Trustees found an obstacle in their way, viz., the high fees required by the By-Laws. The annual dues, \$20 a year, and the Initiation fee of \$50, are all looked upon with dislike by persons not members of the Institute, and who have not grown familiar with its objects and working. The impression has existed and has proved hard to remove, that the Architects outside of New York were to be taxed for the benefit of those in New York. The Board in its printed addresses, and the Secretary in his letters, have always held the same language in regard to this matter; it has been urged upon the notice of the Architects residing elsewhere than in New York, that the Institute was a federal bond uniting together local bodies, called Chapters of the Institute, but independent except as members of this league;—that the Institute itself possessed no libraries, no collections, nothing that could benefit the Chapter seated in the same city in which its own meetings and the meetings of its committees might be held;—that the Chapters themselves must establish their own libraries and lectures, and undertake themselves the education of their own junior members, and the cultivation of their own local communities;—that the money paid the Institute is for the common good, no one Chapter getting more benefit from it than another. It has been urged steadily that the common objects of the

Institute must be striven for by an association common to the whole country. Of which body would the opinion, in regard to a point of practice, a disputed bill, or the like, be the most respected,—of the Chapter seated in the town where the dispute might arise, or of the Central and National Institute? Of which body would a schedule of charges be the weightiest—of a local society, or of the Architects of the United States meeting in Convention? For the publication of papers also,—nine-tenths of the papers issued by the Institute must always be the work of the Chapters, called forth by the requirements of their meetings, and addressed in the first place to local audiences: but in which form are they likely to be the most widely read, as published by the Chapter—or with the imprint of the Institute, and sent far and wide with its endorsement, as it were, as if selected from its abundant stores? If we have in the future a Board of Examination, whose diploma of fitness to practice shall be worth something, and shall be a powerful aid to an able young man seeking business—of what body should this be the creature, if not of a national one, selecting its judges from the whole country, and imposing its general authority upon the whole country? The tendency of the times is to make of the whole nation a single business community; we have, and always shall have, Boston Architects building churches in Chicago, in spite of the merit and the enterprise of the resident Architects, and one or two of the defeated Chicago men building a bank or two in Boston at the same time. Who is to advise with and judge between all these practitioners, members of such different and widely distant communities? Clearly, no one, if not a national body to which they all belong. Who is to judge between the non-resident Architect and his distant client—the Architect, perhaps, residing in New York, the employer in an up-country parish of Louisiana? Clearly, no one, if not an American Institute of Architects.

As every member of the Institute knows—if he will consider for a moment—the expense of the Institute must reach a certain point, if it is to be useful at all. Even if the annual donation to chapters of a sum for Reading Rooms were not paid, and if in a prosperous future the publications became no longer a heavy expense, there are certain other expenses, as for stationery, rent of a meeting room for

committees, &c., from which the Institute cannot escape. There is another item, a rather heavy one and sure to grow heavier,—clerk hire. The work of the Treasurer's office, of the Secretary's office, of the Committee on Publications, take a great deal of time and attention. The work of the different departments cannot be done by Architects who are in active business, without a great deal of clerical help. To take an instance ready at hand and easy to cite;—as nearly as can be ascertained, 173 letters have been sent out during the year from the Secretary's office alone, and signed by the Secretary. Some of these are duplicates—that is, the same letter sent to two or more persons—but the number given does not include notices of meetings and the like, which are printed; and a vast majority of the one hundred and seventy-three are original letters. Add to this the preparing of papers, such as the printed documents which have been issued this year, the preparing and recording of minutes, the filing and care of archives, constant attendance upon the meetings of the Trustees, and the necessary attendance upon the strangers who call upon the Secretary—as the only officer whom they know—and it will be clear to every one that a Secretary of the Institute who should do all his own work, would be occupied during long business hours at least one day and a half in every week. That is a small allowance. Any one who should not write fluently, any one unmethodical, any one unaccustomed to business, would give more time than that.

What is true of this office is true of others. The Institute must be content to meet frankly the requirements of its officers, or capable men will not serve. If a young man with little business of his own is entrusted with an important office, he will be entitled to two or three hundred dollars a year if he does all the work himself. If an Architect in active business consents to undertake the duties, he must sketch out his letters at home and hand them to his clerk for writing out and despatching, or dictate them if his assistant understands stenography. He ought never to be compelled to copy his minutes into the record book, nor to write a second copy of any letter requiring duplication, nor to docket and file papers, nor, in short, to do what an employee can do for him. On other terms, the work cannot as a general thing be done; and in short, clerk hire for the Treasurer, for the Secretary and for the

Committee on Publications, amounting, perhaps, to \$700 a year now, and likely to amount to more, must be accepted as inevitable. The members of the Institute must support and carry on their own business; and the Trustees hold out no hopes to any one that payments to the Institute can be materially reduced.

The especial objection to the fifty dollar Initiation fee—manifested on every side—has, however, claimed the attention of the Trustees. It was found that this was actually an insuperable obstacle. Therefore, on the 18th of January, the Trustees passed the following resolution:

“Resolved, That in order to encourage the formation of new Chapters of the Institute, the sum of thirty dollars from the Initiation fee of each person becoming a Fellow of the Institute before May 1, 1869, for the purpose of forming any such Chapter, be refunded by the Treasurer of the Institute to the Treasurer of such Chapter, immediately upon the organization of such Chapter.”

The practical working of this provision has been in this way. Persons elected Fellows are allowed to send their demand notes for thirty dollars, which are received as part payment of the Initiation Fee. On the establishment of a Chapter, the notes of those Fellows who have become Fellows to found it, and who belong to it, are sent to the Treasurer of that Chapter. In the case of those new Fellows who have paid in cash the full amount of their fee, the thirty dollars in cash will be sent in the same manner. The object of this resolution was, of course, to help to carry out the declared wish of the Institute, to extend into all parts of the country, as amendment is rightly made difficult and slow, and as the Institute has proved to be practically unanimous in wishing to increase the number of its members. The Trustees believed they were carrying out this wish, and speaking the mind of the Convention which elected them, in adopting this resolution. They hope for its approval by the Institute assembled at this Convention.

It will be remembered that at a meeting of the Institute held in March, 1868, a resolution was adopted in these words:

“Resolved, That the Board of Trustees be requested to address to the Architects of this continent a circular letter setting forth the objects and views

of the Institute, the advantages that it offers to Architects, and the method of obtaining membership in the Institute, together with the desirability of forming Chapters in the principal cities."

In obedience to these instructions, two circular letters have been issued by the Board, dated respectively January 25, 1869, and February 15, 1869. These letters have been sent to Architects in all parts of the country, and have been accompanied in many cases by additional remarks or letters from the Secretary. To the former of the two letters many replies were received, and the latter was printed in two forms, with and without an opening paragraph acknowledging receipt of such answer. Copies of these letters have been sent to the members of the Institute for their information, and are appended to this report.—[Appendices A and B.]

During the spring of 1869, six architects residing in Philadelphia were elected Fellows of the Institute, viz.: Mr. Samuel Sloan, Mr. Frank Furness, (who had been previously an Associate,) and Messrs. John McArthur, Jr., John Frazer, Geo. W. Hewitt and Henry A. Sims. The Trustees have recently received from Philadelphia a communication asking for the recognition of a Chapter in that city, and with it the minutes of a meeting, of which Mr. John Frazer was President and Mr. Henry A. Sims Secretary, and at which a Philadelphia Chapter was organized, the By-laws of the New York Chapter adopted for the time, a President, a Vice-President, and a Secretary and Treasurer elected. The Trustees have recognized this body as a Chapter of the Institute, and hope for it prosperity and a rapid increase in numbers and influence.

In Chicago, the Fellows of the Institute there resident are believed to be on the point of organizing a Chapter. Messrs. J. C. Cochrane and A. H. Piquenard were Fellows before this term of office began, and Messrs. Drake, Loring and Boyington have been elected Fellows during this term, expressly to form a Chicago Chapter. The Trustees hope that in a few weeks this desirable object will be accomplished.

From Boston, the Trustees hear none but favorable news. Much communication has taken place between the members of the Boston Society of Architects and the Secretary and other members of the Institute. Many members of the Boston Society

of Architects are also members of the Institute. The minutes of the Boston Society are regularly sent to the Secretary of the Institute. A member of the Board of Trustees was present at the annual dinner of the Boston Society, on special invitation to him in his official capacity. With no authority to speak for the Boston Society of Architects, or for any member of it, the Trustees yet think themselves authorized in saying that in their opinion this association will become, sooner or later, a Chapter of the Institute, the next in size to the New York Chapter, and inferior to none in the intelligence and devotion of its members.

Besides professional members, a number of honorary members have been elected during the term; among them some of the most distinguished Architects of Europe. Their names will be found in the appendix.—[Appendix D.]

The clause of the By-Laws providing that members of the Institute shall be dropped from the rolls for non-payment of dues under certain circumstances, has been enforced of necessity. Nine members, who had been notified by the Treasurer before July, 1869, according to law, and who had failed to pay their dues after such notification, were informed by letters of the Secretary, dated October 18th, 1869, that they had ceased to be members of the Institute, but that their application for reinstatement would be considered. Two of these gentlemen have applied to the Trustees and have been reinstated.

The question of Diplomas has been considered by the Board of Trustees, and some difficulties have been found to exist. A Diploma for Honorary Members may be easily gotten up; but for Fellows and Associates there is this difficulty, that a member may resign, or in other ways cease to be a member, while yet the Diploma remains in his hands. It is, therefore, the opinion of the Board that the Diplomas for professional members should take the form of annual certificates of membership. These should be simple, without vignettes or elaborate ornament, but carefully and nobly designed in the spirit of the best manuscript work of the past—not with obscure and illegible characters, but designed for reproduction by handwork, and not like most modern engraving, in imitation of typography. One plate would yield from seven to ten thousand copies without serious injury, and thus would last

the Institute for a century, while duplicates can be made easily and perfectly by electrolysis.

It may be that no Diploma for Associates would be needed, as most persons will remain Associates for only a few years.

A preamble and resolutions in regard to this matter are appended to this report.—[Appendix C.]

The Trustees have believed that a general feeling exists among Architects that the Schedule of Charges of the Institute is incomplete, and that it may need, in some respects, actual changes. With this belief they appointed a sub-committee of their own body to consider and report upon the whole subject. The task of revising and correcting the Schedule proves, however, to be one of great difficulty. It is not a code of laws which the Institute wishes to promulgate, but a declaration of the received practice of the profession. The Institute does not say "you must charge so much." It cannot. No Schedule can be framed which can be implicitly and always followed. The Institute says, So-and-so is the practice of well established and responsible Architects. Hence in regard to competition, for instance, many questions arise, as: Is it the received custom to compete at all? If so, in what way? under what conditions? What constitutes proper remuneration to the defeated competitor, or should he receive any? Why should his remuneration be less than his charge for preliminary studies? Why should preliminary studies be better paid than services in presenting a competition design? Why not charge a small fee for preliminary studies, thus inducing clients to order them, and leaving it to the Architect's skill to satisfy and secure his client?

All these and a hundred more questions have to be asked and answered. But that a new Schedule must be prepared very soon, and prepared after careful study of the fuller English Schedule and of the complicated and over refined German one, and of all else that is instructive, the Trustees fully believe,

Respectfully submitted,

RICHARD UPJOHN, *President.*

R. G. HATFIELD, *Treasurer.*

R. STURGIS, JR., *Secretary.*

P. B. WIGHT.

JAMES RENWICK.

HENRY DUDLEY.

GEO. B. POST.

APPENDIX A.

SECRETARY'S OFFICE, AMER. INST. OF ARCHITECTS,
Room 34, No. 57 Broadway.
NEW YORK, DECEMBER 15, 1869.

Esq.,

Architect.

Dear Sir :—The American Institute of Architects is intended to include every Architect in America who may be in sympathy with its purpose. Its purpose is to bring the profession of Architecture into a reputable, recognized and influential position.

It is assumed that the professional business of an Architect consists in rendering to his employer certain well-defined, important and confidential services, for which he is to be paid according to a generally received scale of charges.

It is assumed that the proper discharge of his duty to his client forbids the acceptance of any fee, commission, or remuneration of any kind, from any person interested in the work, other than his client. The whole weight of the influence of the Institute is thrown, and will always be thrown, upon the side of strictly professional practice in this respect.

It is assumed, furthermore, that a general agreement among the Architects of America, as to proper ways of conducting business, definitions of professional duties, amounts of professional charges, and the like, would tend to advance the interests of all parties engaged in building. Employers will be more sure of faithful service and proper charges; mechanics will get more easily and completely the instruction and supervision of which they stand in need and which the best of them desire, and Architects will find their authority as experts more readily admitted, their influence for good greater and more easily exercised, and their professional independence secured as the Institute becomes more powerful as a bond of union. To a very great degree this has been the case already. In the matter of Architects' commissions, for instance, the publication of the Institute's Schedule of Charges has made it generally easy for Architects to obtain proper payment for services rendered. During the past seven years the standing of Architects in this respect has been almost entirely changed.

As regards the interchange of technical information, of knowledge gained by actual experience, and of opinions founded upon observation and study,

the value of association in securing this is at once evident. These matters are of necessity left to the several Chapters; but those above spoken of are the affair of the whole Institute.

This letter, ordered by the Institute and approved by the Board of Trustees, is sent to you to introduce the subject to your attention. You are requested to enter into correspondence with the Secretary. You will be informed, in the course of such correspondence, of the purposes of the Institute in detail, of the manner of its organization, of the relations of the Chapters to the Federal body and of individual members to both. Your co-operation with the leading Architects of the whole country is requested in a carefully planned and resolutely undertaken movement to improve our position as Architects.

RICHARD UPJOHN,
President.

RUSSELL STURGIS, JR.,
Secretary.

APPENDIX B.

SECRETARY'S OFFICE, AMER. INST. OF ARCHITECTS,
ROOM 34, No. 57 Broadway.
NEW YORK, FEBRUARY 15, 1869.

Esq.,
Architect.

Dear Sir:—There will be sent you with this a copy of the Constitution and By-Laws of the Institute; the following points are presented to you as being those concerning which information has been asked especially, or may be supposed especially needed.

The Institute is organized upon a Federal plan.

In every city or neighborhood where there may be enough Architects for the purpose, a Chapter of the Institute may be formed. Architects residing at a distance from the seat of any Chapter may also become Members of the Institute.

Besides Honorary Members, the Institute consists of Fellows and Associates, Architects who are made Practicing Members of any Chapter, become *ipso facto* Associates of the Institute; and Architects not belonging to any Chapter may be elected Associates by the Board of Trustees, upon nomination by two Fellows.

Associates or others may be nominated in the same manner for election to the grade of Fellow, and if passed by the Board of Trustees, are voted upon by the existing Fellows, by means of ballots sent through the mails.

The Chapter organizations consist of Practicing Members (who may be Fellows of the Institute, and who as above stated, if not Fellows are Associates of the Institute), and, at the discretion of each Chapter, Juniors, to which grade Assistants and Students are eligible, and non-professional members in any form. But in each Chapter there must be at least five Fellows of the Institute.

Each Chapter regulates its own expenses.

The expenses of the Institute itself are, for Associates, ten dollars a year, payable in two instalments; for Fellows, fifty dollars Initiation fee, and twenty dollars a year. But inasmuch as no Chapter can be formed without five Fellows, and in order to remove possible objections to the initiatory expense of becoming a Fellow, the following resolution was adopted by the Board of Trustees at their meeting on the 18th ult.:

Resolved, That in order to encourage the formation of new Chapters of the Institute, the sum of thirty dollars from the Initiation fee of each person becoming a Fellow of the Institute, before May 1st, 1869, for the purpose of forming any such Chapter, be refunded by the Treasurer of the Institute to the Treasurer of such Chapter, immediately upon the organization of such Chapter."

An Annual Convention is held on the 2d Tuesday in October, the place of which is indicated by the Board of Trustees, unless appointed by the preceding Convention. Other meetings of the Institute may be held whenever required.

The duties undertaken by the Institute as a whole, are chiefly the establishment and maintenance of a perfect understanding, as to prices and methods of conducting business, among the Architects of the whole country.

The Schedule of Prices printed with the By-Laws, may be regarded as temporary; as it is probable that a much fuller one will be adopted ultimately.

It is intended that honorable practice of the profession shall be universal among the members, and that any member who may be guilty of fault in this respect shall be liable to expulsion. It is probable that further duties will be assumed by the Institute.

For instance, it has been urged upon us that we establish an Examining Board to award Diplomas of proficiency and fitness to practice as Architects, to all persons passing a strict examination. The benefits which might result from such an establishment are obvious, and the time may soon come for considering the matter in detail. Publications of important papers, tables, essays, and the like, are already undertaken, and the amount of work of this kind which we can do is only limited by the limitation of our resources.

The duties of the Chapters are to establish libraries and lectures; to educate the Architectural Students and Draughtsmen of their communities by making them Junior Members, or in other ways, to hold meetings for discussion and the reading of papers, and to aid in every way the general purposes of the Institute. In preparing to publish papers and documents, the Board of Trustees and Committee on Publications will always give the preference to papers read before the Chapters.

There are now about seventy Fellows and Associates of the Institute, and nominations are coming in. The Board of Trustees are desirous to facilitate the entrance of new members; and it is thought best for new members to enter as Associates, except in the cases where a Chapter is to be formed at once.

You will find enclosed a blank form of application. If you will fill up and return it to the Secretary, you will then be properly nominated as Associate of the Institute and voted upon by the Board of Trustees, but it would be yet more satisfactory to the Board if you should be nominated by some Fellow to whom you are known. It will be well, however, if you will forward to the Secretary at the same time, photographs of buildings designed by you, drawings and specifications for work executed, or to be executed, publications, or other matter serving as record of your standing in the profession.

RICHARD UPJOHN,
President.

RUSSELL STURGIS, JR.,
Secretary.

APPENDIX C.

Resolutions offered by the Board of Trustees.

Resolved, That the Board of Trustees be instructed to have prepared two Diplomas of Membership of

the Institute; the one for Honorary Members and the other for Fellows.

Resolved, That the Diploma for Fellow shall be in the form of a certificate of membership and good standing, to be issued annually and signed by the President and Treasurer.

Resolved, That both Diplomas shall be without vignettes or pictorial designing of any kind, but ornamented in the way that manuscript work of the best ages is ornamented, in color or in monochrome.

Resolved, That it be left to the Board of Trustees to decide whether engraving on metal or chromolithography be the means best to employ; but that it is the opinion of the Institute that only the most delicate and perfect workmanship is to be employed, and that line-work on copper can be more easily procured of good quality.

Resolved, That the Board of Trustees be instructed to designate a place to which designs can be sent, and a day, not before the first of February next, after which no designs can be sure of consideration

Resolved, That the Board of Trustees be empowered to select designs, and, at their discretion, to request the author of any design to make changes in it.

Resolved, That it is the wish of the Institute that the designs selected shall be, when reproduced by engraving or other process, fully accredited, and in a legible way, to the designers, with the intent to do especial honor to the authors of designs which have been selected by Architects themselves, and for their own service.

APPENDIX D.

List of Fellows at beginning of Term of Office.

Alexander, Chas. A.,	Lienau, Detlef,
Atwood, Daniel T.,	Littell, Emlen T.,
Barnett, G. I.,	Longfellow, W. P. P.,
Bloor, A. J.,	Markham, J. C.,
Cady, J. Cleveland,	Munckwitz, F. Julius,
Clinton, Charles W.,	Piquenard, A. H.,
Cluss, Adolph,	Post, George B.,
Cochrane, J. C.,	Potter, Edward T.,
Congdon, Henry M.,	Renwick, James,
Diaper, Frederic,	Richardson, Henry H.,
Dudley, Henry,	Rogers, John,

Eidlitz, Leopold,	Sands, Joseph,
Emerson, W. R.,	Searle, Henry R.,
Fernbach, Henry,	Sturgis, John H.,
Gambrill, Charles D.,	Sturgis, Russell, Jr.,
Gilman, Arthur,	Upjohn, Richard,
Hallett, Wm. T.,	Upjohn, Richard M.,
Hartwell, H. W.,	Van Brunt, Henry,
Hatch, John Davis,	Vaux, Calvert,
Hatfield, O. P.,	Walter, Thomas U.,
Hatfield, R. G.,	Ware, Wm. R.,
Holly, Henry Hudson,	Warner, Samuel A.,
Hunt, Richard M.,	Wight, P. B.,
Isaacs, H. J.,	Wilson, J. K.,
Kerr, J. W.,	Withers, Fred'k C.—50.

Resigned during Term.

Eidlitz, Leopold, Vaux, Calvert,
Withers, Frederick C.—3.

Dropped for Non-payment of Dues, and had not applied for Reinstatement before Last Meeting of Board—6.

Became Fellows During Term.

Boyington, W. W.,	Hewitt, George W.,
Drake, William H.,	McArthur, John, Jr.
Frazer, John,	Sims, Henry A.,
Furness, Frank,	Sloan, Samuel—8.

Fellow Elect.

Sanford E. Loring—1.

Number of Fellows at Date of this Report—First Day of Convention..... 49.
and Fellow Elect..... 1.

Associates at Beginning of Term of Office.

Furness, Frank,	Jaffrey, Henry S.,
Haight, C. C.,	McKean, John T. C.,
Hardenbergh, H. J.,	Pelz, Paul J.,
Hathorne, George,	Pfeiffer, Carl,
Ireland, Joseph,	Quincy, Edmund, Jr.—10.

Associate Elected Fellow.

Furness, Frank—1.

Dropped for Non-Payment of Dues, and had not Applied for Reinstatement at Last Meeting of Board.—1.

Elected Associates by Board of Trustees.

Keller, George, Vrydagh, J. R.—2.

Became Associates as Practicing Members of New-York Chapter.

Babb, George F.,	Lindsey, E. D.,
Kendall, E. H.,	Ritch, John W.,
Le Brun, N.,	Whyte, N.—6.

Number of Associates at Date of this Report—First Day of Convention..... 16.

Honorary Members at Beginning of Term.

Babeock, Charles, Rev.,	Olmsted, Fred. Law,
Da Silva, J.,	Parker, J. H.,
Darier, Samuel,	Scott, George Gilbert,
Duyckinck, Evert A.,	Snell, George,
Francl, Jean,	Street, George Edmund,
Girard, Alphonse,	Vinton, Alex. H., D. D.,
Hope, A. J. B. Beresford,	Vinton, Francis, D. D.,
Le Fuel, Hector,	Viollet-Le-Duc,
Weston, Theodore.—17.	

Elected During Term of Office.

Ballu, Theodore,	Foerstel, The Baron,
Baltard, Victor,	Guilhermy, The Baron,
Duban, Felix,	Lenoir, Albert,
Duc, L.,	Liddon, Henry Parry,
Schmidt, Friederich—9.	

Number of Honorary Members at Date of this Report—First Day of Convention..... 26.

The Treasurer, Mr. R. G. HATFIELD, read his Annual Report, as follows:

ANNUAL REPORT OF THE TREASURER.

R. G. HATFIELD, Treasurer,

<i>In Account with the American Institute of Architects—</i>	
1868.	Dr.
Oct. 1.—To Balance.....	\$169 50
“ Initiation Fees from Fellows.....	275 00
“ Annual Contributions from Fellows.....	800 00
“ Annual Contributions from Associates.....	115 00
“ Interest on U. S. Securities..	40 86
“ Return of unexpended balance of \$100—appropriation for photo's for the R. I. B. A....	69 83
“ Return of over-charge of Austin, Baldwin & Co. on photo's from Rome.....	5 00—\$1,475 19

	Cr.	
By cash paid Printing	\$189	25
" " " Stationery, Postage, &c.,...	54	10
" " " Clerical services.....	113	67
" " " Furniture, Repairs, &c.....	99	50
" " " Rent, Repairs, Cleaning, &c.	126	75
" " " Express, Messengers, &c....	10	00
" " " Reading Room appropriat'ns	50	00
" " " acc't Com., Lib. and Pubs...	527	65
Oct, 1, 1869—By balance carried forward	304	27—\$1,475 19

	ASSETS.	
Cash on hand, as above.....	\$304	27
Present value of U. S. \$500 bond.....	590	00— \$884 27

The following named gentlemen were elected as Auditing Committee: MESSRS. ADOLPH CLUSS, RICHARD M. UPJOHN and E. T. LITTELL.

Mr. HENRY DUDLEY read the Annual Report of the Committee on Examinations, as follows:

ANNUAL REPORT OF THE COMMITTEE ON EXAMINATIONS.

The Committee on Examinations of the American Institute of Architects respectfully report, that since the last Annual Convention they have had three meetings for the examination of candidates for the office of Inspectors under the Department for the Survey and Inspection of Buildings, and that they have attended surveys upon forty-nine buildings reported to be unsafe. The reports agreed upon at these surveys have generally been complied with, and the recommendations either to repair or take down such buildings, or portions of buildings, which in their opinion were unsafe, promptly carried into effect; and it is believed that during the present year one case only has occurred in which it has been found necessary to appeal to the courts to enforce it.

The Committee are not aware of any change having been made in the law relating to unsafe buildings, under which they are appointed, since the last Annual Convention.

Respectfully submitted, by
 RICHARD UPJOHN,
 R. G. HATFIELD,
 JAMES RENWICK,
 DETLEF LIENAU,
 HENRY DUDLEY,
Committee on Examinations.

NEW YORK, 16th November, 1869.

Mr. E. T. LITTELL read the Annual Report of the Committee on Education, as follows:

ANNUAL REPORT OF THE COMMITTEE ON EDUCATION.

The Committee on Education of the American Institute of Architects beg leave respectfully to report:

That the Committee organized by electing Emlen T. Littell, Chairman, and Arthur Gilman as Secretary of the Committee.

The objects which the Institute aimed at in the establishment of this Committee are necessarily undefined, and the determination of the proper ends to be sought for, and the processes by which they should be attained, were therefore the subjects considered by your Committee.

The project of establishing a Grand Central School of Architecture, which should educate the youth of the entire country, whether those wishing to practice as professionals, or those desirous of obtaining such knowledge of the fine arts as might render them competent assistants or critics, is one which your Committee believe to be desirable, but at the same time almost impracticable. The whole tendency of the social condition of the country is to foster the development of local centres of education, and the prejudices inevitable to locality are difficult to overcome.

Moreover, the difficulty of access to, and the expense of residence in any one city which might be selected as the site of the Central School, would do much to prevent the attendance of many whom it would be most desirable to bring within the sphere of art influences.

Again, the country is too young in art to have many professors. Those, who are independent of the emoluments derived from their practice would much prefer their own homes, and would be loth to assume the duties of a distant professorship; while by far the greater number of our brethren are so much embarrassed by the necessities of existence and the urgent demands of their private practice, which they are compelled to attend to before all things, that the assumption of such a professorship would be equivalent to self-devotion to an honorable form of starvation.

Your Committee deems that these facts cannot be put too plainly before the Convention, in order

that we may not, while striving to attain at once the magnificent ideal, fail to attain that real progress which is within our reach, and which, once made, will furnish us with a vantage ground from which we can more readily prosecute our aims.

We can, it is assumed, organize local schools; not of Architecture alone, but schools of Technology, wherein all the allied arts and sciences shall be taught. Colleges so established would have primarily the advantage of local patronage from the art public, as well as from the students within a considerable radius. The success of the institution would be one of the honors to be borne by the chosen city, and the public spirit of the community would see that, in the advantages offered, it should be surpassed by no other.

The allied branches, which require so much preliminary study over the same ground, being able to occupy the same building, to work under the same management, and to be taught in great part by the same instructors, could well harmonize with a great economy in the sinews of war.

To begin such a school in any city, would, of course, require, firstly, the agreement of the different societies of Architects, Civil Engineers, &c., as to their needs and wishes; and secondly, the awakening of a public and private interest therein. This done, the scholars will gladly avail themselves of the privileges offered.

In the local establishments, made after this skeleton outline, the resident practitioners of each art could be retained, as far as they were able, to deliver lectures on historical and general topics connected with the courses, and to lay before the classes, in lecture form, analytical discourses, with illustrations, of such works, on which they are engaged, as they may consider to be calculated to convey instruction. Classes might be formed to visit buildings in progress, under the guidance of the Architect of the building; inspecting the works in all stages, from the earliest inception in the sketches, through the stages of the studies, the working drawings, and the specifications, and then, as the works take upon themselves a material form, through the shops and yards of the mechanics up to the final culmination in the completed building.

When enough schools have been formed in various places, then there should be established visiting

lectureships in the literary colleges through the country, the discourses so delivered being intended to direct the attention of the undergraduates to the methods of obtaining technic instruction. Your Committee may here state that some of the members have been addressed, on these subjects, by persons connected with several institutions of learning.

A desirable object would also be the establishment of a grand concourse, under the direction of a Committee of this Convention, to be opened to all students of the Architectural course in each centre, or to such students as should have attained a certain grade of distinction in the competitive examinations of their own colleges. The chief prize to be attained in this concourse should be a sum at least sufficient to enable the victor to spend a year in Europe, as a student of the buildings and other art works of ancient and modern times.

Your Committee is of the opinion that its own duties should then be to collect all information which might be of use to the cause of education, and to distribute it where required; to act as a bureau of statistics, and as a committee of consultation, to be called upon by the authorities of the various schools, and to maintain complete files of documents relating to all art colleges, both American and foreign.

All of which is respectfully submitted,

EMLÉN T. LITTELL,
Chairman.
WILLIAM R. WARE,
JOHN DAVIS HATCH,
ARTHUR GILMAN,
J. C. CADY.

Mr. P. B. WIGHT read the Annual Report of the Committee on Library and Publications, as follows:

ANNUAL REPORT OF THE COMMITTEE
ON LIBRARY AND PUBLICATIONS.

To the American Institute of Architects:

The Committee on Library and Publications respectfully report their transactions for the year now closed.

Your Committee was organized on the 29th December, 1868, by the election of RICHARD M. HUNT as Chairman, and A. J. BLOOR as Secretary.

The attention of your Committee has mostly been called to the publication of papers and other documents. Immediately after the convention two hundred copies of the constitution, by-laws and other documents, which were in the possession of your Committee in the form of printed sheets, were ordered to be bound in pamphlet form, with corrected lists of officers and members. When notified by the Secretary of the Institute that this edition was exhausted, all the remaining sheets were bound with paper covers only, and without lists of members and officers.

Your Committee took in hand the publication of the proceedings of the Annual Convention immediately after the event, but on account of delay in receiving copies of reports and other papers which were necessary to make the records complete, the first proof was not ready until March 16th of the present year. On the 9th of April, a full set of proofs was presented to the Committee and the proceedings were put to press immediately. They were ready for distribution in May. These delays are much to be deprecated, and every effort should be made to prevent them in future. But to accomplish such a result it is necessary that the Publication Committee be aided by all who have any part in supplying the matter for publication.

As soon as the proceedings were ready, your Committee ordered the publication of the following papers, which had been recommended for publication by the New York Chapter, and communicated to this Committee by the Secretary of the Institute.

1. A paper on the Architectural and other Art Societies of Europe, Read before the New York Chapter, Feb. 16, 1869, by A. J. Bloor, Fellow.

2. A paper entitled "Remarks on Fire Proof Construction," read before the New York Chapter, April 8, 1869, by P. B. Wight, Fellow.

3. A paper entitled "The Unity of Architectural Styles," read before the New York Chapter, March 16th, 1869, by E. T. Littell, Fellow.

Mr. Bloor's paper and Mr. Wight's were immediately taken in hand, the latter appearing first. Mr. Wight's paper was published in July, and Mr. Bloor's in August. One thousand copies of each of

them, as well as of the Proceedings of the Second Annual Convention, were printed. Mr. Littell's paper has not yet been printed, but it is hoped it will be, under the arrangements recently made, which will be mentioned further on.

As no attempt had been made to sell the publications, these papers and the Proceedings were extensively circulated free of charge. They were sent to the leading newspapers and periodicals, most of which have acknowledged them or given them critical mention. They were sent, not only to all the members and honorary members of the Institute, but to a large number of the Practicing Architects throughout the country, and to the leading professional journals and Architectural Societies of Europe. They were also sent to a number of influential and prominent citizens who are known to be interested in the welfare of the profession of architecture and the fine arts generally. It was thought that a free distribution of the publications of the Institute among the Architects outside our body, would tend, more than anything else, to diffuse a knowledge of what we are doing, and kindle sympathetic feelings toward the Institute. It would also make the catholic spirit of our organization more evident, and show that we are working for the whole profession, even though not supported by it. It would, in any case, spread abroad specimens of our publications, and thus make them sought for, when, at a future day, they are offered for sale. The demand for copies already made, by parties desiring to purchase them, has given your Committee confidence that the effort now being made to realize something from the stock of publications now on hand will not be fruitless.

Your Committee have endeavored to devise a scheme whereby the publication expenses may be lessened, and much of the labor of distribution saved. They recently consulted with publishers and booksellers, and asked for tenders for selling the past and future publications of the Institute. Several offers were received from responsible parties, and placed before the Committee on the 21st of October last. That which was thought to be most advantageous, was from Western & Co, publishers of the "Manufacturer and Builder," and the "Engineering and Mining Journal." After due deliberation, especially as to whether future papers should be published in the old way or printed in the "En-

gineering and Mining Journal," as urged by Western & Co., the latter course was taken, the proposition accepted, and the Board of Trustees were asked to contract with the parties on the terms agreed upon by the Committee. Authority was accordingly given by the Board, and a written contract, prepared by this Committee, was executed. By the terms of the contract, Western & Co. will keep on sale all the publications of the Institute heretofore issued, five in number, either in their present pamphlet form, or in bound volumes, comprising the transactions for the past three years. They will also advertise the same extensively. They are to advertise and sell the Proceedings of the present convention as soon as issued, and to have the privilege of inserting sheets of advertisements between the last page of the same and the cover. They will also print in the "Engineering and Mining Journal" such papers and official documents as may be furnished by the Publication Committee of the Institute. These of course will consist mainly of papers read at the Chapter meetings. By this arrangement the Institute may be able to realize something from the stock of publications now on hand, and will be relieved of all expense in the publication of papers, having only the Proceedings of the convention to publish. The contract is made for one year, but will not preclude the Institute from publishing any matter which it may be thought advisable to print in pamphlet form, or which may be too bulky to print in the "Engineering and Mining Journal." The arrangement between the Institute and its publishers is believed to be for mutual advantage. While the Institute will enjoy an extended publicity through it, the publishers will have the reputation of being patronized by the Architectural profession, and its representative, the Institute. In order that the public may better understand the Architectural character of the Journal, it is to be hoped that its publishers will, at no distant day, incorporate the word "Architectural" in its title.

To supply the demand for copies of the Proceedings of the First Annual Convention, all the loose sheets remaining on hand have been bound in pamphlet form.

A printed circular, bearing date July 8, has been sent to all the members of the Institute, with copies of the publications for this year. The object of the

circular is best explained by the following extract from it:

"The publications of this Committee are issued in the interest, and for the benefit of the whole Institute and the profession generally, and not in the interest of their authors or of any Chapter before which they may have been read. From the fact that the New York Chapter is as yet the only part of the Institute which holds regular meetings, the papers thus far published have been selected from those read before that body; but the prospect of the formation of Chapters in Philadelphia and Chicago, which are now in contemplation by the Architects of those cities, leads this Committee to hope that papers will soon be received from those quarters.

"The publications of the Institute are not confined to papers that may have been read before the Annual Convention or at the Chapter Meetings. Any contributions of its members, that are of interest to the whole profession, will be duly considered, and, if thought proper, published. In making selections, papers of general interest, giving the results of experience and research, will receive the preference over those which are aesthetical or disputatious."

During the past year a communication was received from the publishers of the "Architectural Review and Builder's Journal," of Philadelphia, which requested the privilege of publishing the papers of the Institute in that Journal. At that time no change in the method of conducting the publications had been contemplated. The Committee, moreover, saw impediments in the way of having its publications conducted at a distance from the central office of the Institute, and it was evident that a Chapter of the Institute in Philadelphia might maintain relations with the Review with much more practical advantage to both parties than could the Central Committee of the Institute. At that time the project of a Chapter in Philadelphia was being agitated, and this Committee, accordingly, on the 23d of February last, adopted the following preamble and resolutions:

"Whereas, we are informed that there is the prospect of the formation of a Chapter of the Institute in Philadelphia at an early day, therefore,

"Resolved, That it is the opinion of this Committee that all relations with the publishers of the

'Architectural Review' should be transferred to the Philadelphia Chapter, when formed."

It is due to the publishers of the "Architectural Review" to say that the subsequent selection of the "Engineering and Mining Journal" as a vehicle for the publication of the Institute's papers has been made solely with regard to convenience in the transaction of business between the Committee and the publishers, and because it was thought best on financial grounds to put the whole business of the Committee into the hands of one party.

The following donations to the Library have been received during the year:

1. Five volumes of the works of Samuel Sloan, of Philadelphia, presented by the author.
2. One volume entitled "Principles and Practice of Architecture," by Sanford E. Loring and W. L. B. Jenney, of Chicago, presented by Cobb, Pritchard & Company, publishers.
3. A pamphlet entitled "Handbook of Designs," by G. P. Randall, Architect, Chicago, presented by the author.

The Institute has acquired, by purchase, a Megalithoscope, and a large number of photographs, procured by Mr. R. G. Hatfield, Treasurer of the Institute, during a European trip in 1868, at an expense of \$250. These were ordered by the Board of Trustees for 1867-8. They have been placed in the Committee room of the Institute, at 57 Broadway, New York, where also are all the books, pictures and photographs belonging to the Institute. The collection, as is well known, and as has previously been said in reports of this Committee, is not a large one, and in fact there seems to be neither a prospect nor desirability of its being increased to any extent. The policy declared in a resolution adopted by the Convention of 1867 has been adhered to, namely: "That no additions be made to the Library as such, but that Chapter Libraries be catalogued as the Library of the Institute." In view of these facts, your Committee are inclined to recommend that some means be devised whereby such books and pictures as may not have been presented to the Institute shall be sold for the benefit of the treasury. It is not to be expected that the Institute will ever cease to have a Library. On account of its intermediate relationship between the

Chapters and foreign societies it will from time to time receive presents from abroad, and will be the vehicle of communication for transmitting foreign matter to them. It remains, therefore, to be determined what disposition shall be made of such matters as may be sent to it and may not be for any special Chapter. This question is also respectfully offered for the consideration of the Institute. To carry out the policy heretofore indicated, and to make it more evident that the Institute is, as is said by the President in his annual address of 1867, "a peripatetic body," as well as to make the books and pictures more useful and available, some means should certainly be devised whereby distribution may be effected and accumulation stopped. But whatever is done must be effected without prejudice to any one concerned.

Respectfully submitted, by

RICHARD M. HUNT, *Pres't.*
P. B. WIGHT,
EMLEN T. LITTELL,
HENRY VAN BRUNT,
A. J. BLOOR, *Sec'y.*

THE SECRETARY read the Annual Report of the Philadelphia Chapter, the Application of the Fellows in Philadelphia for the Establishment of that Chapter, and the Minutes of the Meeting of Organization.

THE SECRETARY then read the Report of the New York Chapter.

ANNUAL REPORT OF THE NEW YORK CHAPTER OF THE AMERICAN INSTITUTE OF ARCHITECTS, FOR THE YEAR 1868-69.

To RUSSELL STURGIS, Jr., Esq.,
Secretary of the A. I. A.

SIR:—In accordance with the requirements of the 4th Section of Article XII of the By-Laws of the Institute, I have the honor to submit herewith for its information my report for the official year 1868-9.

At the first regular meeting for the year, being the second annual meeting of the Chapter, held at its then rooms, No. 42 East 14th St., on the evening of Tuesday, 6th October, 1868, Mr. Richard M. Hunt, President, being in the chair, the proceedings included the presentation of the annual reports of the Standing Committees for the preceding year, which were all accepted. The Secretary then presented his report as Sub-Committee of one, on the Establishment of New Grades of Membership, which after discussion, was adopted and ordered to be printed.

The election of officers was then entered upon. The following gentlemen, who had served the preceding year, were re-elected to their several offices, viz.:

R. M. HUNT, . . . *President.*
 R. G. HATFIELD, . . . *1st Vice-President.*
 C. VAUX, *2nd Vice-President.*
 DETLEF LIENAU, . . . *Treasurer.*
 A. J. BLOOR, *Sec. and Librarian.*

The following Standing Committees were elected, viz.:

Executive Committee.

R. M. HUNT,		R. G. HATFIELD,
RICHARD UPJOHN,		HENRY FERNBACH,
EMLÉN T. LITTELL,		

Committee on Admissions.

R. M. UPJOHN,		HENRY DUDLEY,
GEO. B. POST,		WM. T. HALLETT,
RUSSELL STURGIS, JR.		

Committee on Library and Publications.

P. B. WIGHT,		CHAS. D. GAMBRILL,
A. J. BLOOR,		R. M. HUNT,
RUSSELL STURGIS, JR.		

At the second meeting, held on Tuesday, October 20th, the President in the chair, Mr. Wight read the first part of a translation from Viollet-le-Duc's Lectures on the History and Æsthetics of Art.

At the third meeting, held November 3d, the President in the chair, the report of the Sub-Committee of one on new grades of membership, &c., was made the order of business for the next meeting, and the Board of Trustees of the Institute was requested to postpone the annual convention for the purpose of affording the Chapter an opportunity to report that it had fully organized under the rules

of the Institute. At the close of the regular proceedings an informal meeting was held for the purpose of discussing the report.

At the fourth meeting, held November 17th, the President in the chair, the report of the Sub-Committee of one was read, and Mr. Post offered amendments providing for a Committee on Education, and for lectures and prizes to the proposed student members. It was then resolved that the report be read article by article. After the reading of a portion it was resolved that the meeting go into Committee of the whole for the more informal discussion of the subject in debate. After the adjournment of the Committee of the whole, the Chapter adjourned for a Special meeting one week thereafter, for the consideration of the proposed By-Laws embodied in the report.

The Special meeting ordered was held November 24th, the President in the chair. The Secretary, as Sub-Committee of one, offered the proposed By-Laws, embodied in his report as printed, with amendments thereto. After said amendments were recited and others offered, the question was put: "Shall the By-Laws as printed, together with the accepted amendments thereto, be adopted as a whole?" Which was carried.

At the next regular meeting, held December 1st, the President in the chair, it was *Resolved*, that the Committee on Library and Publications be instructed to act as a Committee of Conference with a similar Committee, when appointed, of the Institute of Civil Engineers, for the purpose of securing, if possible, a concert of action in establishing a Library and a Museum, &c., &c., so far as may conduce to the interests of the New York Chapter A. I. A.

It was also *Resolved*, that a Committee of five immediately take the necessary legal steps to procure the incorporation of the New York Chapter A. I. A. The chair appointed Messrs. Wight, Post, Renwick, Gilman and Hatch such Committee. A letter prepared by Mr. Wight with a view of correcting misapprehensions, and explaining the method of joining the Institute through the Chapter, was adopted, and ordered to be printed and sent to such practicing Architects in the Chapter District as the President, Mr. Wight and the Secretary, should select.

At the next regular meeting, held December 15th, the President in the chair, Messrs. N. LeBrun, E.

D. Lindsey, Ed. H. Kendall and Geo. F. Babb, were elected Practicing Members.

Mr. Jno. Davis Hatch was elected Treasurer *pro tem.* Mr. Lienau resigned. Several printed documents were presented, issued by the Boston Society of Architects, and comprising memoranda of their meetings. Mr. Wight read the conclusion of his translation of Viollet-le-Duc's Lectures on the History and Æsthetics of the Art.

At the meeting of January 19th, the President in the chair, the Committee on Library and Publications reported progress in the matter of subscriptions to the Library fund, which had recently started under the provisions of the new By-Laws; and the Committee on Incorporation reported that all the necessary steps had been consummated to constitute the Chapter a separate and independent corporation to carry into effect within its District the objects of the American Institute of Architects. Whereupon the meeting, by unanimous resolution, ratified and accepted the certificate of incorporation, vested all the property of the society in the same, and continued in office as the officers of such corporation the officers and standing Committees of the Society. Mr. Gilman then read a humorous and historical sketch on the "Building of John Hancock's House," and received a vote of thanks therefor.

At the next meeting, February 2nd, the President in the chair, the following were elected junior members, viz.:

Mr. HENRY R. McLANE,
 " WM. H. BISHOP,
 " W. L. WELLMAN,
 " MAURICE FORNACHON and
 " CHAS. BUEK.

Mr. Lienau's resignation as Treasurer was reluctantly accepted, and a vote of thanks passed to him for his faithful discharge of the duties of the office. Mr. Jno. Davis Hatch was then elected Treasurer. A letter was read from Mr. John Rogers, a member of the Chapter, accompanying the gift of a specimen of antique carving from Wells Cathedral, in England. Mr. Rogers' gift was gratefully accepted, and a vote of thanks passed to him for the same. The question of a diploma and seal for the Chapter was discussed, and referred to the Executive Committee. Mr. Sturgis then made an interesting address on interior decoration and furniture, illustrat-

ing his remarks by large scaled drawings, and received a vote of thanks therefor.

On Tuesday, February 16th, the President in the chair, the Special Committee on the distribution of a letter to the Architects outside of the Chapter, reported that the letter has been transmitted to about seventy Architects. The Secretary then read portions of a paper prepared by him on "The Architectural and other Art Societies of Europe; Historical Outlines of their Origin, Processes of Formation, and Methods of Administration," received a vote of thanks therefor, and the paper was recommended to the Institute for publication. Mr. Lindsey gave some interesting details in regard to the occurrences in the Ecole des Beaux Arts, following the Imperial decree of November 13th, 1863, alluded to in the paper. A discussion ensued on the general tendencies of academical influences for or against Art, and on the comparative merits of mediæval and modern dwelling structures.

On March 16th, Mr. Hatch in the chair, the Executive Committee reported that a circular had been addressed to the various members of the Chapter, requesting them to furnish designs for a diploma and seal. Messrs. John W. Ritch and Nicholas Whyte were then elected Practicing Members, and Messrs. Joseph Bridgham and Chas. L. Hall, Junior members. Mr. Wight read a paper by Mr. Littell, on the "Unity of Architectural Styles." The paper elicited a discussion on the propriety of eclecticism as a rule of practice, and a vote of thanks was passed to author and reader.

On April 6th, Mr. R. G. Hatfield, Vice-President, in the chair, the Committee on Library and Publications, and a Sub-Committee of the Executive Committee on new quarters for the Chapter, reported progress. Two pamphlets on the Rhode Island Hospital being offered by its Architect, Mr. A. C. Morse, a former member of the Institute, with the intimation that he had in contemplation the formation of a Chapter in Providence, a vote of thanks was passed to him therefor, as well as an expression of sympathy with his project for a local society in affiliation with the Institute. A note from the President was read urging the members to exert themselves among their clients and friends in behalf of the Library Fund. The Secretary having called attention to some steps taken towards the formation of a Draughtsman's Association in the

city, and Mr. Bishop having explained that it proposed to study both the artistic and the pecuniary welfare of its members, while Mr. Hatch said that, as he understood, it was not proposed that the members of the Association should be simply Draughtsmen attached to the Architectural Profession, but those in all departments of Industrial Art and Science, and that one object was to assist foreigners on first arriving here to suitable situations, the following preamble and resolutions were passed. "Whereas, this Chapter has heard that a society of Draughtsmen is about to be formed in this city, therefore *Resolved*, that this Chapter heartily sympathizes with any effort that may be made by the Architectural Draughtsmen for the formation of an Architectural Draughtsmen's Society, and will offer to any such society all the support in our power." Mr. Wight then read a paper prepared by him entitled, "Remarks on Fire-Proof Construction," illustrating it by diagrams on the black board. A vote of thanks was passed to him therefor, and it was recommended to the Institute for publication. The paper elicited some debate. Mr. Gilman adverted to some floors which were formed of concrete exclusively and were therefore claimed to be fire-proof, Mr. Wight thought that even if so, they could not withstand pressure like iron floors. Mr. Le Brun spoke of the French system of floors of plaster of Paris, three inches thick, in combination with timbers. The Chairman, Mr. Hatfield, said there was a building in Sheriff Street in this city, of combined wood and plaster construction, which claimed to be fire-proof, but he doubted if it would stand the test. He reminded members that some of the vaults of the Coliseum and the baths of Caracalla were of concrete exclusively. Mr. R. M. Upjohn mentioned two bridges built of concrete, one of which had fallen down. Mr. Hatfield said he was informed that sewer arches had been built abroad, constructed exclusively of the kind of concrete called *béton*.

At the next meeting, held at the new rooms of the Chapter, 925 Broadway, on May 4th, the Vice-President in the chair, a letter was presented from the Draughtsmen's Association, acknowledging the receipt of a copy of the friendly resolution recently passed by the Chapter relative to the Association, and expressing its hearty and appreciative thanks therefor. By request, Mr. Bishop read a portion of a paper read before the Royal Institute of British

Architects, by Mr. Wyatt Papworth, "On the Superintendents of English Buildings in the Middle Ages." Mr. Hallett drew attention to what he considered some defects in the Institute schedule of charges. A general feeling of concurrence was expressed in Mr. Hallett's strictures, and action was moved in the matter, but on the representation that the Board of Trustees of the Institute had the subject already under consideration, the matter was allowed to rest. The above was the last Chapter meeting for the year 1868-9.

A full account of the transactions of the Committee on Library and Publications for the whole year is given in its Annual Report hereto appended,* by which it will be seen that it has labored assiduously in its important object of establishing a Library and forming the nucleus of such other conservative and educational appliances as the future may develop. Although the Library Fund collected by the Committee has not yet reached the figure set for it, the list of influential persons shown in the report as subscribers to it is an encouraging evidence of the practical hold which the aims of our organization is taking on our community, and it will probably not be overlooked by future affiliated branches of the Institute in an estimate of the possibilities to grow out of such energy and judgment as they may exercise in their respective local communities.

The above memoranda indicate that the question of a diploma and seal for our Chapter has been considered by it, and that it had been referred to the Executive Committee. That Committee, in its last annual report, states that it received but one answer to the circular addressed to the members, asking for designs for the same. This communication recognized the necessity of the Chapter having a seal, without however contributing a design for it—but objected to the issue of a Chapter diploma, on the ground that that of the Institute should suffice. It recognized no objection, however, to a certificate of membership being issued to Junior Members, and perhaps in time to the Honorary Members, neither of which grades have direct relations with the Institute.

No specimens of building appliances were officially submitted to our Chapter during the last year, as so frequently was the case during the preceding

* This Report was printed by the Committee on Library and Publications of the New York Chapter. Copies may be had of A. J. Bloor, Secretary N. Y. Chapter A. I. A., 925 Broadway, N. Y.

one, but Mr. Pfeiffer informally exhibited some specimens of fine American marble.

I further report for the official year 1869-70 so much of its proceedings as have transpired to date.

The third annual meeting and first regular business meeting of the Chapter for the official year 1869-70 was held at its rooms, 925 Broadway, on Tuesday, October 5th, 1869, at 9 P. M. In the absence of the President and Vice-President, the Secretary called the meeting to order, and Mr. Wight was placed in the chair. The reports of the Standing Committees and of the Treasurer were read and accepted, and an Auditing Committee on the Treasurer's report appointed. Messrs. Alfred H. Thorp and Theodore Clark were elected Juniors, and Mr. Karl Müller, Sculptor and donor to the Chapter of a rare work of Art, viz., an original impression of Albert Dürer's celebrated engraving known as the "Melencolia," was elected an Honorary Member for life. The following Officers and Standing Committees were elected for the ensuing year:

President. RICHARD M. HUNT.

Vice-President. . . R. G. HATFIELD.

Treasurer. JOHN DAVIS HATCH.

Secretary. A. J. BLOOR.

Executive Committee.

R. M. UPJOHN,		HENRY FERNBACH,
R. G. HATFIELD,		H. H. HOLLY.

Committee on Admissions.

GEO. B. POST,		E. D. LINDSEY,
WM. T. HALLETT,		JNO. DAVIS HATCH.

Committee on Library and Publications.

P. B. WIGHT,		RUSSELL STURGIS, JR.
CHAS. D. GAMBRILL,		

Committee on Education.

RUSSELL STURGIS, JR.,		GEO. B. POST.
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The first regular meeting of the session was held on Tuesday, October 19th, 1869, including an exhibition of designs by the members, the opening of the Architectural Library, and a reception to the press and friends of the enterprise. After a collation, Mr. Geo. B. Post requested the visitors to come to order, and successively introduced several speakers. Mr. P. B. Wight read extracts from the report of the Committee on Library and Publications, and called attention to a bust of Mr. Upjohn,

the President of the Institute, presented to the Chapter by Mr. Karl Müller, the sculptor. Mr. Sturgis then spoke of the surprise exhibited by cultivated foreigners, and realized by Americans returning from abroad, on witnessing the great poverty of the appliances for education in any of the Fine Arts in this country, and of the great necessity, first so far as Architecture is concerned, and afterwards in relation to its cognate arts, of a Technical Library, to be, perhaps, supplemented by a Modeling School and other educational appliances, and by a Museum of Architectural Examples. Mr. I. G. Pearson, an Honorary Member, spoke of the improvements in Architecture since he was connected with it in practice, and said that there was still room for a vast advance in public taste and professional ability. The Rev. O. B. Frothingham, on being asked to speak, said he presumed the request was made, first because he knew nothing about Architecture, and second because he knew nothing about business; and yet he supposed that the main objects of the Chapter were to improve its special art and to put it in practical relations with the business community. He did know, however, that while, within his recollection, a taste for the building art had greatly advanced, and a great deal of money had been expended in giving it expression, there was still room for great improvement in it, which result must necessarily be preceded by better education and higher attainments in the professors of the art, and by a higher standard in the community whose means must sustain it. The responsibilities of Architects to the community were of the highest kind. Not one of the professions had more important duties to fulfil, and on no one did the community so universally and directly depend for its health, comfort and happiness. For the community must live in, and perform all their various avocations in just such structures, good or bad, as are provided for them by their Architects. He, himself, occupied a house in one of the best wards in the city, and of the lines which should be straight in that house there was not one that was straight; and whether with reference to the doors, windows, decorations, or means of heating and ventilation, the dining-room, as compared with its possibilities, was not fit for a cultivated gentleman to eat in, nor the parlor to talk in, nor the bed-room to sleep

in. He believed that all that was projected by the Chapter was required to ensure a better state of things for the whole community, and that a society organized as the representative of the Architectural element of that community should not be contented with less. The society had begun in a small way, but so far as it had gone it had evidently made a substantial success. He was glad to see that it had commenced so high up, for it showed an appreciation of the extent of its responsibilities, and he that is high up can easily descend when necessary, while he that sticks to the low plane very likely does so because he is incapable of keeping his foothold on a higher one. There were a good many steps to climb before getting to the quarters of the Chapter; but once there, those who were present had found a pleasant room, hung round with architectural designs, some of them beautiful, and all at least giving the promise of still better things to come; while in another room they had found shelves covered with costly illustrated folios and works of technical literature, not yet many in number, but such as had already been received bearing evidence of systematic and judicious selection. If the same energy and judgment which had inaugurated these advantages continued to prevail, the society need not fear any disappointment in the realization of its aspirations for becoming a beneficent power in the community. All the rest alluded to by Mr. Sturgis—a complete Library—a Modeling School—a Museum—all these would follow as a matter of course. The business community needed only to have the matter properly set before them to acknowledge the claims of an organization whose works were necessarily of such a character as to enure to the public benefit. The Chapter would receive all it needed; it would be able to move its Exhibition-room and Library lower down—more on the level of the business current—and there attain its public-spirited ends. The speaker concluded by reiterating his conviction that if the Chapter would be as assiduous as heretofore in the practical development of its aims, and would but make a handsome presentation of its claims on the mercantile and other monied branches of the community, its success would be certain.

The second business meeting was held November 2nd, Mr. R. G. Hatfield, Vice-President, in the chair. The report of the Treasurer for the last year was

withdrawn, to allow for the rectification of a clerical error against himself. A sample of Outcault's patent elastic joint iron roofing, manufactured by an extensive Western house, and for which great advantages over ordinary metallic roofs are claimed, was exhibited and examined, and received the approbation of the meeting. Mr. Wight made some statements in regard to a proposed meeting at the Union League Club, on the 23d inst., called by the Art Committee of the Club for the purpose of discussing the formation of a National Museum of Art. By resolution, the President and Mr. Wight were appointed to represent the Chapter at the meeting.

The following is a list of the present members of the Chapter.

Honorary Members for Life.

Wm. T. Blodgett,	D. N. Barney,
Isaac Green Pearson,	Charles H. Whitaker,
Wm. E. Dodge, Jr.,	R. L. Kennedy,
H. C. Crane,	George Cabot Ward,
E. C. Moore,	Ernest Tuckerman,
Henry Chauncey,	Alex. Van Rennselaer,
Samuel G. Ward,	Benj. H. Field,
John Jacob Astor,	Jas. L. Wise,
A. A. Low,	John Sturgis,
N. M. Beckwith,	Russell Sturgis, of London,
Wm. H. Aspinwall,	Russell Sturgis, of New
Ashbel H. Barney,	York,
	Karl Müller.

Practicing Members.

Alexander, Chas. A.,	Hatfield, R. G.,
Atwood, Daniel T.,	Hathorne, George,
Babb, Geo. F.,	Holly, Henry Hudson,
Bloor, A. J.,	Hunt, Richard M.,
Cady, J. Cleaveland,	Kendall, Ed. H.,
Clinton, Charles W.,	Le Brun, Napoleon,
Congdon, Henry M.,	Lienau, D.,
Diaper, Frederic,	Lindsey, E. D.,
Dudley, Henry,	Littell, Emlen T.,
Fernbach, Henry,	McKean, J. T. C.,
Gambrill, Charles D.,	Markham, J. C.,
Gilman, Arthur,	Munckwitz, F. Julius,
Haight, Chas. C.,	Pfeiffer, Carl,
Hallett, Wm. T.,	Post, George B.,
Hardenbergh, H. J.,	Potter, Edward T.,
Hatch, John Davis,	Renwick, James
Hatfield, O. P.,	Richardson, Henry H.,

Ritch, Jno. W.,	Upjohn, Richard,
Rogers, John,	Upjohn, Richard M.,
Sands, Joseph,	Warner, Samuel A.,
Sturgis, Russell, Jr.,	Whyte, Nicholas,
	Wight, P. B.

Junior Members.

Bishop, Wm. H.,	Fornachon, Maurice,
Bridgham, Joseph,	Hall, Charles L.,
Buek, Charles,	McLane, Henry R.,
Clark, Theodore,	Thorp, Alfred H.,
	Wellman, W. L.

Respectfully,

A. J. BLOOR,

Sec'y N. Y. Chapter A. I. A.

NEW YORK, November 15th, 1869.

Mr. R. M. HUNT, the President of the New York Chapter, then delivered an Address concerning the Year's Record and Present Standing of the New York Chapter.

ADDRESS BY RICHARD M. HUNT, PRESIDENT OF THE NEW YORK CHAPTER.

Mr. President and Gentlemen :

The re-organization of the American Institute of Architects under the Chapter system has necessitated various and important changes in the By-laws of the New York Chapter. These have been made more especially in the hope of affording some assistance to those among us who are actively engaged in the formation of like Chapters elsewhere.

The old fable of the body and its members has held good for centuries, and will ever be applicable to all wide-spread associations.

The Institute must be the nucleus around which the Chapters must form themselves, they being at the same time entirely independent in action.

Under the old system, was it possible for members at a distance to attend meetings or participate in frequent discussions of general professional interest? Or was it practicable for the Institute to regulate building laws and various other matters for other States, when materials employed, natural resources, prices of labor, etc., differed of necessity so widely in a country of such vast extent as ours?

Above all, the formation of an Architectural

Library and Museum, one of the great aims and immediate needs of the Association, and of the community at large, was impossible under the old system. Where could it be located? Citizens of one State could not be expected to subscribe to an enterprise not to be situated in their midst, and from which they would receive no direct benefit.

Experience has shown that in a country like ours a *National* association cannot exist with a fixed location; besides, for practical usefulness, each capital city, from the Atlantic to the Pacific, needs its own Library and Museum.

A little more than a year ago, soon after the organization of the New York Chapter of the American Institute of Architects, the first steps were taken towards the formation of a Library and Museum of Art in this city, and during the last twelve months more has been accomplished toward this end than had been effected in nearly as many years under the old system.

In fact, when we consider the slow progress of similar institutions in the old world, established under the most favorable auspices, receiving substantial aid from governments, commanding the direct support of highly influential and cultivated minds, and of individuals whose taste and means enabled them to form valuable private collections, and in course of time to become contributors to the various free and public art collections, we have much reason to be encouraged by the progress of our own first efforts.

All great enterprises must have small beginnings, and in a mercantile community like ours, where men's minds are of necessity so much occupied by the development of the vast resources of a new hemisphere, the great increase of interest shown during the last few years in everything appertaining to art and to a higher cultivation, is the best promise of a fulfilment of our present earnest hopes and ambitions. Already in our midst a number of private collections have arisen, which are by no means contemptible. Should we not therefore have faith that, having laid the corner stone of the "Architectural Library of the City of New York," the dormant desire for more and better opportunities of education and cultivation of taste will awake in our people, so apt to receive impressions and so capable of adopting them.

American generosity has become a by-word in Europe, and here, where private enterprise accom-

plishes what governments do abroad, will not men, (the great object and end once plainly set before the community) who, from an innate love of the beautiful, wealth, position or culture, take an interest in the first struggles of a new people in search of more artistic light, stretch out helping hands from all parts of the United States towards institutions whose influence will bear on the nation as that of the great kindred European associations bears on their respective states. (And here let me return thanks for the generous donations which this Chapter has already received in behalf of the Architectural Library of the City of New York, and not only for the amount and influential support which they represent, but also for the cheerful manner in which almost all requests were responded to.)

Again, the Chapter system encourages a spirit of emulation. Ideas between the different Chapters should be interchanged. This is provided for, it being the duty of the Library and Publication Committee of the Institute to publish and distribute such papers, reports, etc., as may be considered of sufficient use and interest to the general profession.

An exchange of publications already exists between this Association and the Royal Institute of British Architects, and steps have been taken to secure like communications with the various other architectural societies of Europe.

In connection with the Library and Museum, it is our intention to provide for lectures, and to establish classes for all branches of professional and artistic education, and to inaugurate a system of prizes and diplomas for the benefit of graduating students, thus securing to them a sure position among the profession, a want that has already been felt and partially supplied by the Society of Draughtsmen lately organized in this city, and to whom the Chapter has extended all the encouragement in its power.

This Chapter has likewise endeavored to secure the co-operation of the Society of Engineers of this city in the formation of a Museum.

It is proposed to collect models, casts, drawings, photographs, in fact everything referring to architecture and the cognate arts,—thus forming a department such as now exists at the Kensington Museum, and which has proved not only a source of great instruction to the student, but to the public at large.

The opportunity of opening the doors wider to the public and to the profession was embraced immediately on the incorporation of the Chapter. Honorary grades of membership for life were created, conferring all the privileges of the society (with the exception of voting) on persons donating the sum of \$100 to the Library Fund, the same advantages being secured in perpetuity for \$500. This class of membership has afforded opportunity for the introduction not only of connoisseurs, but of business men directly representative of the various industrial arts connected with Architecture, thus giving us new strength by increased numbers. And in order to obliterate any feeling of exclusiveness supposed to have existed before the reorganization of the Institute, (so detrimental to the prosperity of any associated body,) the Chapter has issued a circular letter, extending the right hand of fellowship to the profession generally.

The vast increase of interest shown during the past year by a much more general attendance, by the greater number of papers of interest read before the Society, by more liberal discussions, and above all the comparatively immense additions to the library, prove emphatically how great a success our association has been under its new organization.

The reception which inaugurated the formal opening of the Library in its modest and unpretending quarters, instituted at the same time a new phase in the history of our Society. The presence of so many distinguished guests, and the admirable speeches made on that occasion by non-professional talent, added to the interest shown by the press, has placed the society more conspicuously before the public than it ever has been before.

We aim to elevate the profession!—to cultivate and educate the public mind! The *present* hope of the Chapter is to bind the profession together,—to obliterate by a closer intercourse all petty jealousies in the common cause of mutual advancement.

A motion to extend an invitation to all Architects who were present, but who were not members of the Institute, to attend the Business Meeting, was carried *nem. con.*

The Convention then adjourned to 8 o'clock, P. M. at the same place.

TUESDAY, NOVEMBER 16TH.

EVENING SESSION.

The evening session was called to order by the Vice President, Mr. HUNT.

Mr. WIGHT moved that the Chair appoint a Nominating Committee. Carried.

The Chairman then appointed as such Committee, Messrs. DUDLEY, WARE, FURNESS, WILSON and RENWICK.

On motion of Mr. POST, the order of business was suspended and the election of officers postponed.

The Auditing Committee reported that they had examined the report and accounts of the Treasurer, and found them correct.

On motion of Mr. FERNBACH, the report of the Treasurer was accepted, and the Auditing Committee discharged.

REPORT OF THE COMMITTEE ON INVITATIONS.

Mr. WIGHT, Chairman of the Committee of Arrangements, reported that the Committee had invited Mr. SAMUEL F. B. MORSE to be present at the convention, and to deliver the closing address, and had received his regret in these words:

[FROM SAMUEL F. B. MORSE, Esq.]

POUGHKEEPSIE, Oct. 16, 1869.

To P. B. WIGHT, RUSSELL STURGIS, JR., and GEORGE B. POST, Esqrs., Committee of the American Institute of Architects, 57 Broadway, New York.

Accept my thanks for your very flattering invitation to meet with the Architects in convention on the 17th proximo, and deliver an address at the closing of the convention.

With every disposition to further the noble object of your Institute, and with sincere wishes for your success, I am yet compelled to decline your invitation from various causes, but especially and immediately, from my physical condition in consequence of my late accident. * * * *

Again thanking you for your kind and flattering remembrance of me,

I am, with sincere respect,

Y'r ob. serv't,

SAM'L F. B. MORSE.

Mr. WIGHT also read the following letters:

[FROM THOMAS U. WALTER, F. A. I. A.]

GERMANTOWN, PA., Oct. 15, 1869.

P. B. WIGHT, RUSSELL STURGIS, JR., and GEO. B. POST, Esqrs., Committee of Arrangements for Convention A. I. A., New York.

Dear Sirs—Your favors of the 23d ult. and the 12th inst. came duly to hand, and I take occasion to say in reply thereto, that, while it will afford me pleasure to comply with your request to be present at the Annual Convention of the American Institute of Architects, to be held in New York in November ensuing, I shall be under the necessity of declining to accept your polite invitation "to contribute an original paper," to be read on that occasion. If, however, I should find time to prepare anything that I think would be interesting, I will take pleasure in doing so; but I am too much

occupied at present to make it proper for me to speak positively on the subject.

Very respectfully yours,
THOS. U. WALTER.

[From A. B. MULLETT, Supervising Architect of the Treasury Department.]

TREASURY DEPARTMENT,
OFFICE OF SUPERVISING ARCHITECT, }
November 10th, 1869. }

My Dear Sir—I have to acknowledge the receipt of an invitation to attend the Third Annual Convention of the American Institute of Architects, for which I presume I am indebted to your courtesy.

Please accept my thanks for your kindness, and believe me, if it is possible to meet you, I shall take great pleasure in doing so.

Please advise me if a set of photographs showing the Treasury Building in its various stages of construction, would be acceptable to your Institute. If so, I will gladly forward them.

Very respectfully,
A. B. MULLETT,
Supervising Architect.

P. B. WIGHT, Esq., *Architect,*
925 Broadway, New York.

[From W. P. P. LONGFELLOW, F. A. I. A.]

Messrs. P. B. WIGHT, RUSSELL STURGIS, JR., GEORGE B. POST,
Committee.

Your favors of the 6th and 12th inst. were duly received. I have delayed,—unduly, I am afraid,—answering your very pleasant invitation, from a great reluctance to yield to what appears now to be the necessity of declining it.

It would give me great pleasure to attend the Convention, in the objects of which I am greatly interested, and to contribute my part to its discussions, but the pressure of business in the office with which I am connected is becoming such that I dare not undertake to prepare a paper which, to suit the occasion, should be carefully and maturely considered.

I shall be very glad, if I have an opportunity, of attending the Convention. It has my sympathies with its purposes, and my best hopes of its success.

With many thanks for your courteous invitation, and regrets that I cannot venture to accept it.

I am, very cordially yours,
W. P. P. LONGFELLOW.
Washington, D. C., Oct. 15th, 1869.

[From H. W. HARTWELL, F. A. I. A.]

BOSTON, Sept. 25, 1869.

Messrs. P. B. WIGHT, RUSSELL STURGIS, JR., GEORGE B. POST,
Committee, American Institute Architects.

I have the honor to acknowledge the receipt of your favor of the 20th, and beg to assure you that, appreciating the honor of your invitation, I would gladly comply with it if I felt that anything which I might read would be of real value or interest to the members of the A. I. A., or,—modesty aside,—if I did not see that it would be impossible for me to prepare a paper in season for the convention.

Up to the present time it has been my misfortune to be unable to attend any of the meetings of the Inst., and I fear that I shall be again prevented. I shall do my best to be with you when the day comes, but must ask to be allowed to make my first appearance among you in a strictly private capacity.

Thanking you for your invitation, I remain,
Very truly yours,

H. W. HARTWELL.

DISCUSSION OF THE SCHEDULE OF CHARGES.

On motion of Mr. WIGHT, the part of the Report of the Board of Trustees relating to professional charges, competitions and rules of practice, was again read.

Mr. STURGIS:—The Trustees did not make any definite proposition. They referred it to a Subcommittee, and that Committee did not report anything final; and therefore the Trustees could not report anything final.

Mr. LITTELL:—I move to postpone the consideration of this point to the next Convention of the Institute. It seems to me that we have hardly yet

established a rule. In the Report are a great many very pertinent suggestions, and it will be well at some future time to act upon them. It seems to me that if we change now we shall weaken our influence, and therefore I hope the subject may be postponed.

Mr. STURGIS:—I wish to say that I disagree with Mr. Littell, and for this reason: some things in the present Schedule interfere with the getting of that influence which Mr. Littell thinks so important. My own personal feeling in regard to this matter of charging, is, that the charge of one per cent. for "preliminary studies," is a great objection,—probably the greatest in the whole Schedule. It sometimes happens that one charges it and gets it without trouble; but it often happens that the charge seems even to the Architect to be too large. It sometimes seems so to me. Sometimes my preliminary sketches are very slight; for instance, a ground plan on a very small scale, and a free-hand perspective.

Now, it seems too little labor, calling for too short a time for such a charge. In the case of a house that is to cost fifty thousand dollars, one per cent. is too much. It seems to me so, because a man would naturally be disposed to go to an Architect whom he knew charged high, if he knew that the first charge would not be so heavy. I am not in favor of making this charge much lower without making a sliding scale. But if one sketch satisfies a man that he cannot go on, then something less than one per cent. might be very satisfactory. But there are some things which now come in under the one per cent. charge that would then, it seems to me, require a higher charge. It is because of this that I say the question is a difficult one. It is something like our charge of four dollars a day in hotels. It is notoriously more extravagant than that adopted in Europe, where a man pays a specified sum for each item. It seems to me that a sliding scale of prices would be more economical to the client as well as to the Architect. If we stick to a lump fee to cover every possible sketch, it is possibly not too large. But it seems to me that it ought to be put into a different form, so that the amount of work that is to be done will be more definite.

Mr. LITTELL:—It seems to me that this question,

then, will turn on how much work each member will render for one per cent. Now, I am not able to get up in one evening, or two, or in ten, such sketches as I hand in to my clients for the charge of one per cent. It takes me, to make such sketches, a long while. I consider that the preliminary "studies" (which is the word—not "sketches") should embody a building which can be constructed from the paper—there. [Holding a drawing in his hand.] It is not a mere sketch which you can make off-hand from your sketch book in an hour, or less time. I think it would be better to add another charge for sketches different from preliminary studies. But again, it seems to me that the first point I urged is the one we ought to look at. Can we wisely depart now, from our previously expressed opinion? Let us wait a little while before we turn aside from what we have already done. If we are as changing as a weather-cock, people will not have any confidence in us, and we shall not deserve it. Let us lose half our business if necessary, for the sake of being consistent. Let us get credit for honesty, if we go no further. [Applause.]

Mr. POSE:—It seems to me that the whole discussion depends upon the definition of the term "preliminary studies." One considers them slight sketches that a draughtsman may make in a day or half a day. Another considers them full drawings from which a mechanic might possibly construct a building.

Now, as to "preliminary studies," if slight sketches are meant, I agree with Mr. Sturgis; but if an elaborate set of drawings is understood, I agree with Mr. Littell. [Laughter.] It seems to me that the whole thing depends on what we understand "preliminary studies" to mean. It has been my practice, where I have made drawings such as Mr. Littell describes, for instance elevations to a scale, accurately drawn, to charge one per cent. When I have made sufficient sketches to give a man an idea of the ground plan of the house, and what the general appearance of the house might be, I have taken the liberty of considering that it was not a preliminary study, but that it was a rough sketch, and charged accordingly, whatever I thought it was worth, and generally more than I thought it was worth. [Laughter.]

Mr. WIGHT:—This whole question, Mr. Presi-

dent, seems to me to grow out of the difficulty of putting a monetary value upon a professional work. Now, if we can determine what is a preliminary study, then I think we are entirely out of the woods. I agree with Mr. Littell that we should not make any changes; but we can explain what we have already decided upon; and those explanations are not to be construed as changes, but simply as elucidations of the thing. If we can draw up a statement as to what constitutes a preliminary study, then anything that does not come up to that standard becomes a sketch or whatever else you choose to call it. It seems to me we could get out of the trouble by defining what a preliminary study is; and as our object is to compare opinions on this matter, I will venture my opinion that a preliminary study is something pretty carefully done and involving a certain amount of work; that it is a set of drawings made to a scale, say of an eighth of an inch to a foot, with a perspective, and perhaps sections. In other words, it is those drawings which are necessary to show the shape, design, and construction of a building, but which are not clear or detailed enough to put into a builder's hands. That is to say, they should be such a set of drawings as can be put into the hands of a very smart draughtsman, who could from them make working drawings and have the design carried out.

Now, probably, the sketches which Mr. Sturgis may make, which are very satisfactory to himself, and which may be satisfactory to his client, he would not like to put into the hands of a draughtsman and have him carry out the design; because they may show certain things about the design and yet not show the construction—and it may turn out that they could not be built. [Laughter.] I do not refer to that gentleman's designs, but I bring this up as a specimen case—that the design may not have been thought of in all of its details. I consider therefore that a preliminary study is a design that is sufficient to show what the building is to be, but not sufficient to build from. In other words, it is a drawing or set of drawings for an unprofessional man; while working drawings are for builders or mechanics. If we can decide upon that definition, then every man will be quite sure as to when he is right in charging one per cent. for "preliminary studies." Else if you consider anything except finished drawings as "pre-

liminary studies," a man might draw off on a piece of paper a rough sketch and say, "There is my design, and I want one per cent. for the drawing." We know very well that that cannot be crammed down the throats of clients. And I think we ought to be satisfied with getting one per cent. for such a set of drawings as I have defined.

Mr. STURGIS:—I agree with Mr. Wight entirely. It seems to me that what we need is what he has defined to be a series of explanations overlying and elucidating the present Schedule; and the only question between Mr. Littell and me is whether we shall consider it now or a year from now. It seems to me that it is more important that we should know each others minds all over the country, than that we should not change our Schedule. One thing that we are to gain in being allied together in regard to charges is that we should charge uniformly. It is notorious that we do not now. I submit that a more careful explanation of the Schedule as it now stands, with minor changes, would enable us to practice uniformly. And all I ask is for such an explanation as that. I think it would be better for our standing if this were done, than if we went on for a great many years never modifying anything.

Mr. LITTELL:—It seems to me that the conscience of each member of the Institute would tell him that "preliminary studies" are not loose sketches—that he cannot charge for his rough hand work the same price that he charges for his hours of toil. A study means study. If he charges for his "study," he has got to give a "study." And therefore the Schedule of the Institute, as at present set forth, needs no emendation. A man is at liberty to charge anything he chooses for work not laid down in the present Schedule. He may charge for his sketches five or five thousand dollars, according to what they are worth; but for "preliminary studies" he can charge one per cent. Now, if that is understood, it may be just as well understood by resolution among ourselves, or by talking it over among ourselves; and there is no necessity for amending our Schedule whatsoever. Again the thing comes up, that if we understand it rightly among ourselves, the only point left for us to discuss is the expediency with regard to the public. Every

member in this room means to do a fair hour's work for a fair amount of money. There is no difference whatever in that opinion. Every man means to do that; and whatever the wording of the Schedule may be he must construe that Schedule in accordance with his conscience. Every man knows that a careful study for a building is worth one per cent.; and every man knows that an hour or two's work on the problem of that building is not worth one per cent. The only thing that remains for me to decide is: Shall I take advantage of any quibble and charge one per cent. for rough sketches, or act up to the spirit as well as the letter of the rule, and charge for studies when I give studies, and charge for sketches when I give sketches? If we all agree to that, then there is no necessity for changing the formula. If our sketches take half a day's work, then we can charge for half a day's work; but if our studies take six months, then we can charge accordingly.

Mr. WARE:—There does not seem to be any substantial difference of opinion on this subject. Slight sketches should be charged for *ad libitum*, according to their worth, and careful studies should be taken to be the "preliminary studies" spoken of in the Schedule. It seems to me that an explanatory resolution to that effect would settle the whole matter, and prevent any chance of misconception. The only thing in which I differ from the gentleman who has just spoken, is in regard to the desirability of the thing being left to the individual conscience. It seems to me that it is exactly these questions of nice detail between ourselves and conscience for which this is intended. For nothing is more embarrassing to us than, when a special case comes up, to be called upon to settle the pecuniary value of a special piece of work upon its own individual merits. I am sure it is as unpleasant a sort of thing as can happen, to be obliged to consider and decide whether a piece of work is worth two, or three, or four thousand dollars, which the Schedule of the Institute permits you to charge. It would be a matter of a good deal of long discussion in a good many cases, unless the Institute backs the Architect. Nevertheless the Institute is right, and the bill ought to be sent in. The object of this is to prevent casuistic discussions in our minds, and I should prefer to have a declaratory resolution on this point.

The motion of Mr. Littell, that the consideration of this question be postponed until the next Annual Convention of the Institute, was then put and lost.

Mr. POST:—It seems to me that some of the gentlemen who have spoken, Mr. Littell among others, misapprehend the great advantage which a fixed rate of charges, that covers every possible case, would give. Mr. Littell said that if a man makes a sketch, and he thinks his work worth so much for half a day's work, let him charge it. I think that any Architect who has had a varied practice will agree with me that there is a large class of work which we do, on which we actually lose money when we are paid at the rates laid down by the Institute in their Schedule of Charges, and that the only way we get a fair compensation is by averaging the work we do; so that what we lose in one place we make up in another. Now we will take as a case in point the design of a monument, and assume that a proper fee for executing the design is about ten per cent. on the cost. For every monument that costs less than five thousand dollars, where the Architect attempts to make designs and full size drawings, he must lose money. I speak after a good deal of experience, and I am satisfied he must lose money. But some man may come in, as happened once in my practice, and give you your ten per cent., and yet, after all, give you but little to do. In such a case my partner, after considerable discussion, contracted with a gentleman to design a monument. But, on receiving his instructions, we discovered that making the drawings would occupy but a very short time, and the fee would be some six or seven hundred dollars. Now, for that individual design, we were undoubtedly and manifestly overpaid. Before that, however, we had made at least fifteen designs, on every one of which we had lost money. I only give this as an instance of the working of a fixed rate of charges. I think in the end we came out about square. But if we had attempted in each case to charge what we thought we should have, we should have charged sometimes more than the marble cost, including the cutting and placing it in position, for the mere execution of the drawings.

Mr. R. M. UPJOHN:—I would suggest that preliminary drawings be ground plans and one per-

spective view, but not plans to be used in estimating or contracting.

Mr. WIGHT:—I would like to say, *à propos* of the whole thing, that a number of questions have been raised, one by a gentleman who is not here to-night, and that is, in regard to the definition of the clause allowing three per cent. on the cost of “stores.” The meaning of the word “store” should be defined. I think that is a point we can definitely determine to-night. At the same time I would like to call attention to the British Schedule, which really explains some of these things which we are trying to get over; and perhaps we might be able to adopt some of their articles. I would be in favor of adopting them as we have published the Schedule; because this published list was prepared with certain eliminations, adapting it to our wants.

Mr. LITTELL:—Since my motion to postpone has been voted down, I should be glad to support Mr. Ware’s motion; but I think it is impossible to provide for every contingency that may arise. I doubt whether there is a single commission that comes into any Architect’s office which resembles any other in all respects,—in the amount of work that is to be done for a given percentage. But whether it resembles what the Architect has had before, or what the Committee who drew up this Schedule of Charges have based their conclusions upon, if we attempt to make a Schedule which shall cover every case, we may go on until Doomsday and not get through. The British have got a long Schedule which no one can understand; and the German Schedule, not even the men that got it up can understand; and if we do not look out we shall get into the same position. A man who devotes his mind half a day to our Schedule may understand it. If we do not look out we shall go on finessing and explaining and covering up, and the result will be that our clients won’t understand it, and we won’t understand it; and we won’t get as much pay—which, after all, is the point we are driving at,—neither will we do as much honest work for our pay. Let any man consider the conversation that he has had with his clients over the present Schedule, and he will find that the Schedule, plain and simple as it is, requires explanation on every single point. An explanation must not only be based on

the Schedule itself, but on the history of Architecture in this country, with certain reference to its history in other countries.

Mr. R. M. UPJOHN:—It seems to me that if you make so small a charge for “preliminary studies,” it will increase competition and enable a man to get a great many plans from a great many architects for one per cent.

Mr. WARE:—I will offer the following: “*Resolved*, That by preliminary sketches is intended such studies as will admit of rough estimates being made.” I would not urge that this be put to vote at once, but that it be referred to a Committee, or be postponed till to-morrow. I should be very glad to submit to an amendment.

Mr. WIGHT:—It strikes me that we might, after discussing these questions, and finding out the views of gentlemen, refer them all to a Committee and have them brought up for action at the end of the convention.

The CHAIRMAN, (Mr. HUNT):—I do not suppose it would be possible to so construct a resolution as to cover what properly might distinguish a sketch from a “preliminary study.” And with the Schedule of Charges adopted by the American Institute of Architects, which is very simple, being divided into three heads, that of the British Institute of Architects being divided into twenty-six heads, it strikes me we can get as near to what we ought really to charge as if we made an extra resolution or by-law. Are you going to get anything clearer than the fifteenth article of the Schedule of the British Institute?*

Mr. WIGHT:—That does not define what should be the ratio of each separate charge, while ours does.

Mr. HUNT: I suppose that if we should write a certain case and give it to each member for him to bring an estimate on to-morrow, we should disa-

* 15. DUTIES OF THE ARCHITECT.—All the following requirements for buildings are included in the ordinary charge of 5 per cent.:

Preliminary sketches.
Working drawings and specifications sufficient for an estimate and contract.
Detail drawings and instructions for execution.
General Superintendence of Works (exclusive of Clerk of the Works.)
Examining and passing the accounts, (exclusive of measuring and making out extras and omissions.)

gree,—half would be for charging for a preliminary study, and the other half for a sketch. The resolution of Mr. Ware is, that by preliminary sketches is intended such studies as will admit of rough estimates being made. Why, rough estimates may be made without a sketch. [Laughter.] Then we have got to define the word "rough." I am rather inclined to believe with Mr. Littell that that is one of the things we have got rid of. The Institute was occupied twelve years in writing the By-Laws and studying up the Schedule of charges, and I do not think we ought to make a change without due consideration.

Mr. BLOOR:—I move as an amendment to Mr. Ware's resolution—or as a substitute for it—that a Committee of three be appointed by the President to define what constitutes a preliminary study, and report at the afternoon session to-morrow.

Mr. STURGIS:—It is very easy to let this thing go over until next year. If the Institute does not want to do anything about it now, very well. My object is to bring the whole thing up and have it all discussed, or to lay it in the grave until some future and wiser generation resuscitates it.

Mr. WIGHT:—I think we had better appoint a Special Committee to consider and frame suggestions made by this meeting, to report to-morrow afternoon; and I make a motion to that effect.

Mr. Wight's motion was seconded.

Mr. WARE:—If it is parliamentary for me to accept Mr. Bloor's amendment, I desire to do so.

Mr. RENWICK:—I think the shortest way is for gentlemen to do what is worth one per cent., and then charge for it. [Laughter and applause.]

Messrs. Bloor and Ware signified their acceptance of Mr. Wight's motion as a substitute for those offered by them.

A vote was then taken on the motion of Mr. Wight, and it was lost.

Mr. STURGIS:—This matter springs out of the Report of the Board of Trustees, and some action should be taken upon it. I move now that the Report of the Board of Trustees be referred back to them for amendment in the clauses relating to the Schedule of Charges, and that the Convention

express its wish that all concerning that matter be omitted from the Report.

The motion of Mr. Sturgis was seconded.

Mr. R. G. HATFIELD:—I hope that that will not pass. This is an important matter. We have had a deal of conversation upon this subject, and we may pass resolutions and act upon it in any way that the Convention chooses, but still the importance of the subject remains. It is very important, because it interferes frequently with our everyday business. We are constantly called upon in our practice to answer these questions. We may choose not to answer them here as an Institute, but that does not put the question out of existence. It is there and we have got to deal with it. The only question is whether we shall continue to deal with it as individuals or to deal with it as an Institute. I hope you will see the importance of the Report of the Board of Trustees. It is very well to discuss this question, but I do not think we are ready to settle upon any definite change. I think that what we have been doing is all right; that we ought to go on and discuss it and bring out the ideas of the various members, and disclose the difficulties that we have encountered as individuals; then we will be better able to consider what remedies to apply.

A vote was then taken on the resolution of Mr. Sturgis, and it was lost.

Mr. WARE:—I am very sorry that the previous motion was lost. The only object of the motion that I made was that this question of charges might be kept before the meeting in one shape or another, so that the difficulties which undoubtedly exist on the subject might be discussed, and the opinions and experiences of the different members obtained; and we cannot get those after we are separated. It is simply a question whether we wish or do not wish to prolong this discussion. The Convention, in voting against that resolution, seemed to say that they wished the discussion terminated, and that we should pass to something else. But it seems to me that is not the real wish of the Convention. I hope we may take up this question of charges point by point, and get the opinions of members upon it, so that either by resolutions or in our own minds we may know how to act.

Mr. WIGHT:—I offer as a definition of a preliminary study, the following: "A preliminary study is a set of drawings, which must consist of ground plans of all the stories of a building, sections necessary to show the general arrangement and construction, and a perspective view. Such drawings must be full enough to explain the general design and construction to a client, but need not be sufficiently detailed for making estimates. Anything less than this is a sketch, and is to be charged for at the option of the Architect, according to the amount of service given."

Mr. LITTELL:—It seems to me that the question is, shall we alter our Schedule, and shall not we explain this subject of preliminary studies? Shall we alter our present Schedule? Is it advisable? Is it policy? Is it policy to stultify ourselves? Is it policy to stultify our action for the past three or four years? I fully concur with Mr. Wight in his essay on preliminary studies. It is very truthful and says nothing more than should be said. But it should be said by the Architect to his client, and not by the Institute in its Schedule. If we can separate those two questions and vote on them separately, I think it would be a very advisable thing. The first question is, shall we alter our Schedule as printed, and the second, shall we explain it among ourselves? As regards the first, I say no; as regards the second, I say yes.

Mr. POST:—Mr. President, I was merely going to remark in connection with the explanation of Mr. Wight as to what preliminary studies consist of,—that I do not think it would be wise or expedient in an Architect in making a set of preliminary studies for such a building, for instance, as the Park Bank, to make a perspective drawing. A colored elevation would be much better.

Mr. DUDLEY: I agree with Mr. Post.

Mr. R. M. UPJOHN:—I would suggest the following,—that sufficient plans should be made,—say the ground plans, and, perhaps, the elevation,—to enable the Architect of the building, himself, to determine the cost. Mr. Wight proposes that he should make it clear, so that the client understands the plans. Why, he might never understand the plans. [Laughter.] Suppose you say sufficient plans to show the inside and outside of the building to the understanding of the Architect. [Laughter.]

Mr. POST:—It seems to me that we are losing valuable time. We all of us agree as to what preliminary studies should be, for which we are paid one per cent., and the only difficulty is to make a definition which will explain this to the general public. I think we have proved during the last hour that we are not capable of making such a definition. I think, too, that if we could make such a definition, it might, perhaps, be as well to keep it from the Schedule of Charges. It seems to me that as we all understand this matter, we had better proceed to something else; I therefore now move that we proceed to the consideration of the fifth topic, and allow this matter to remain in its present condition until we have more wisdom and are better lexicographers.

Mr. STURGIS:—I move to amend by inserting the sixth topic in place of the fifth.

Mr. POST accepted the amendment, and the motion, as amended, was carried.

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The Convention then adjourned until the morning session of Wednesday, November 17th.

WEDNESDAY, NOVEMBER 17TH.

MORNING SESSION.

The Committee was called to order at 12 o'clock, M., the Vice-President, Mr. R. M. HUNT, in the Chair.

The following paper, by Mr. ADOLPH CLUSS, of Washington, D. C., was then read.

THEORY, FUNCTIONS AND INCIDENTAL USES OF CHIMNIES.

Ancient civilization, to which Architecture is so much indebted in other respects, prospered in the warm climates of Egypt, Greece and Italy, where fires in the apartments were seldom necessary. It has therefore thrown but little light on this branch of science.

The ancients had no chimnies in their dwellings. The "Kapnodoche" of the Grecian dwelling was most likely nothing but a hole in the ceiling through which the heated products of respiration of man and of combustion of charcoal in the braziers then in vogue, passed off, after having mingled with the air, according to the law of diffusion of gases.

It has been said that history has failed to record the inventor or to define the place where the chimney was first used, but as with other acquisitions of modern civilization, it must be acknowledged that this progress of personal and fireside comfort is rather the result of the combined efforts of generations than of individual men. The apparatus used by the old Romans, in connection with their warm baths, having been lost to the masters of the middle ages, we find the primitive elements of the modern chimney in conical smoke tunnels ascend-

ing through the thick walls of castles of the Anglo-Saxon period in England, when certain necessities stimulated invention; and it is not difficult to trace the transition from these contrivances to the common chimney, of which we find the first authentic record in the 12th century, in France, in the fourteenth century in Italy, and in the reign of Queen Elizabeth in England, when lady visitors in lordly mansions were frequently sent out to other houses, where they could have the enjoyment of a fire-place, that modern luxury, which is now considered as one of the workingman's wants.

The chimnies, in first instance, serve the purpose of effecting a regular and quick access of air to the grate as required for the chemical decomposition of bodies containing a large percentage of carbon and hydrogen, which are called *fuel*. This decomposition gives birth to new combinations, accompanied by development of light and heat, and is called *combustion*. The quantity of air which flows through the grates depends mainly upon the proportions of the chimnies. A second, and no less important function of theirs, especially in our large cities, is to discharge the products of the combustion into the air instead of allowing them to spread over the room. If these gases are visible, as *smoke*, the presence of pure carbon or carbonic oxide, both combustibles, and results of an incomplete combustion, is indicated—the first being a pure waste, and the second in part so, constituting a lower degree of oxidation than the incombustible carbonic acid, the formation of which shows an exhaustion of the heating powers of the fuel. The gases are impregnated with carbonic acid, steam, combustible va-

porous and nitrogen, as the incombustible part of the feeding air, and would be injurious to health if diffused immediately in too limited a height; therefore they must be carried beyond the reach of human abodes, to be caught and diffused by the currents of the atmosphere, without doing any harm. To serve the latter purpose the chimneys are frequently built higher than would be necessary for effecting the necessary draft.

Without entering minutely into the computation of the sizes of chimneys for open fires or for stoves, it is proposed in the sequel to give some rules mainly agreed upon by the theorists, in order to serve as a guide for practical life. These rules must be applied judiciously, since the nature of the fuel and local circumstances affect them.

Nevertheless, they are apt to give the limits within which to move, in order not to commit any gross errors against physical laws, or to cause an unwarranted waste of fuel in a century which may justly be proud of its progress in the science of the laws of nature. The draft of a chimney, namely, the velocity or ascensional force of the currents within it, is determined by the rules of hydraulics, since, on account of the small difference between the pressure of the air within and outside, the rules for efflux of water may be safely applied. It depends primarily upon the height of the chimney. Heated air, rising in a vertical pipe, open at both ends, represents a column of air equal in height to the height of the pipe, diluted in proportion to the intensity of its heat, and which is lifted by an equally high column of exterior, colder, therefore heavier, air, in the manner in which, with communicating pipes of equal height, a fluid of less density in one pipe is raised by the denser fluid in the other pipe. Within certain limits the taller the chimney or the hotter the gases, the more rapid will be the draft.

Suppose the air in a smoke-stack of forty feet height being heated to 212° F. above the exterior air. Its density and weight will then be about three-quarters of those of the surrounding atmosphere. The consequence is that the exterior air will enter the lower end of the chimney with a power equal to the weight of an equal sized column eleven feet in height, since twenty-nine lineal feet of the exterior column weigh as much as forty lineal feet of the heated column. The velocities of the current in

chimneys of equal height and with equal differences of temperature, increase with the square-roots of their diameters, provided that the section of the flue from which the warm air enters is at least equal to that of the chimney. Moderately wide chimneys offer, besides, the advantage of cooling off the ascending air less, because the surfaces of contact, as elements of the retarding element of friction, are proportioned to the diameters, whilst the volumes of moving air are as the squares of the diameters. Chimneys should, therefore, have a moderately wide shaft, but the upper orifice of their tops, regulating the efflux of the gases, should not be larger than is requisite for a discharge with proper velocity, say ten feet per second, because otherwise cold air would enter, force a downward current by the side of the ascending column, and, besides causing a disadvantageous cooling off, would interfere directly with the draft.

A proportionably wide chimney, having low velocity coupled with a smaller upper orifice, will, therefore, bring the actual velocity of discharge near to the theoretical velocity. It may reach as much as eight-tenths of the latter, after deduction has been made for friction at the rims and against the side walls of the opening.

Another agent, besides the heat of the interior column, is the velocity, which increases with the higher layers of the atmosphere and their more or less horizontal direction, tending to carry off the discharging gases.

The breezes in the higher regions are more regular and stronger than near to the ground, where their movement is weakened and interfered with by friction and many other obstacles.

But still more important under this head, is the effect of an absolute dilution of the air in the smoke-stack under certain circumstances.

If the temperature of the air in a smoke-stack is equal to the temperature of the exterior air, and there is no cause for a change of the specific gravity and the pressure of the air on one of both sides, then the column of air within the stack will be at rest.

But if an atmospheric current, a wind, moves in a horizontal or ascending direction immediately above the mouth of the smoke-stack, then the quiet column of air within presses, with an elasticity dependent upon its atmospheric pressure, against

the moving exterior layer of air, which consequently sweeps along the particles of air at the orifice by air-friction. This causes an absolute dilution of air in the stack, therefore a rapid flow of air from the fireplace to the stack, and causes frequently during heavy gales an unusually strong draft in the smoke-stack, even at times when there is no fire and the thermometer shows the air to be colder in the chimney than in the open air; which case is mostly observed in the spring.

The useful height of a smoke-stack has, however, also a limit, to exceed which will diminish the draft, and which, therefore, must be considered as the maximum height of the stack. The warm air which enters the smoke-stack from the fireplace or furnace cools off whilst rising, thus becoming denser and heavier; for a corresponding height of the stack it would finally reach the temperature or the density and weight of the exterior air. So far the height of the stack helps the draft; with a greater height, however, a column of air would exist within the stack which does not differ in weight from the corresponding exterior column, and consequently does not increase the draft. On the other hand, this is objectionable, since whilst lifting this dead column of air, its friction against the walls of the stack must be overcome, and the power required will therefore be lost for the effect of the stack. The height of chimneys in dwellings is determined in most cases by the height of the dwellings themselves, since, generally, they must be exceeded a few feet. Their size is fixed mostly by municipal regulations, which cannot well be altogether disregarded, though they still partake frequently of the character of a law in the reign of the First Edward, when a man was tried, convicted and executed for burning sea coal in London!

An efficient combustion requires, aside from the quantity, also a certain velocity of the feeding air. If this is too small, the exterior air will not be mingled properly with the combustible gases in the fireplace, and the latter escape in part, from the process of combustion forming a settlement of vegetable acid, tar and soot in the flue. This slow and incomplete combustion will not reach the high temperature which is to be aimed at. If the velocity of the air is too great, the combustion will take place completely close down by the grate, the flame will be short, the circulation of the hot gases will be

very small, they will be hurried along in the chimney, and the costly fuel will not be consumed to any advantage. If the gases are not left time to part with their heat, we poor freezing mortals are condemned to buy dear fuel,—in order to produce carbonic acid! The most proper velocity within the chimney depends upon the kind of fuel and apparatus; seven feet per second will be a good average in dwellings, in order to make the combustion as complete as possible. Suppose this velocity to be doubled, then twice as many adhering particles of air will not only have to be torn away from the walls, but will also have to be pushed forward with a doubled velocity, and this requires a power increasing in the square. The resistance of friction is therefore proportioned to the square of the velocity. Chimneys for open fire-places, besides being conductors of smoke, serve also the purpose of renewing the air, or ventilating the rooms. If their size is proportioned to one square foot in stem, and contracted to one-half of a square foot in chimney top, for every 3,500 cubic feet of the space to be heated, they answer, with the average height of our city dwellings, the stated conditions, and change the entire volume of the air in the room five times per hour. The most useful sizes of chimnies required for good sized parlors are rather large. It is advisable in such cases to have two fires, since otherwise it will be difficult to avoid the backing of the smoke while building the fire. On the other hand, however, no such chimney of any room should have less area than one-half of a square foot. In Russia and Germany, where stoves predominate, flues of no more than six inches in diameter have lately become very popular, without much previous reflection, facilitating, as they do, the task of the designing architect, since with moulded bricks they need not form any projection, even in a nine inch wall when it is stripped inside. But it is now admitted that, in consequence, the coal dealers flourish, whilst the housewives complain. No flue of any kind should have less than 60 square inches sectional area, otherwise the fuel will be wasted.

Five different theories have been started during our period, for best shape of longitudinal section of chimney flues, namely:

1. The chimney is built with parallel side walls.
2. The sides are contracted at orifice.
3. The sides are enlarged at orifice.

4. The sides are contracted at half height.
5. The sides are enlarged at half height.

Each theory has its champions still, and though prepared to meet the issue in all its phases when required, I do not propose to encroach upon your time too much, since the position I maintain is based upon personal tests. The ably conducted contest, however, treated mainly the question of draft, whilst I consider it in conjunction with that of economy of fuel.

The height of smoke stacks for furnaces and boilers with chimney-draft is generally assumed, for an engine of 20 horse power, as not less than sixty feet, by which, with a proper width of the stack, a good draft is obtained. To determine the horizontal section of such stacks, it must be considered that the combustion of one pound of coal requires, as a maximum, 150 cubic feet of air, of which one-third combines with the gases evolved from the coal, and two-thirds with the solid portion of the coal.

The combination of the air and gases increases their volume as much as one-tenth. That quantity combining with the carbon remains the same. The total product of the combustion, assuming the temperature of a furnace at 1000° Fahrenheit, at which æriform bodies are expanded to about three times their ordinary bulk, will be 464 cubic feet for the pound of coal. Adopting reliable results, that the products of such combustion pass off at a velocity of 36 feet per second, the area to allow this quantity to pass off will be half a square inch; in practice, however, as a large surplus of air is always admitted, it is found advantageous to increase the area to two square inches. This will give for the average consumption of one horse power, equal to 13 pounds of coal per hour on a square foot of grate, 26 square inches of area for the flue opening into the chimney.

As temperature and bulk become reduced in proportion to the distance from the fire, the area of the flue towards the chimney may be narrowed gradually, avoiding any sudden contraction, awkward bends or sharp angles, and so as to reduce the area of the chimney itself to about three-quarters of the above, or $1\frac{1}{2}$ square inch per pound and hour, as stated.

A common rule is, that the minimum area of chimnies 72 to 90 feet high, is 400 square inches for each 20 horse power.

The most correct shape of horizontal section of chimnies is, in relation to resistance of friction, the one which for a given area has the least circumference, consequently the circular shape and the shape of a polygon. In the vertical section through axis it is usual to erect small smoke stacks prismatically, but to increase the thickness of walls towards the ground. Higher smoke stacks are built pyramidically inside as well as outside, in order to offer more resistance to the winds. While adhering to the latter forms, large factory stacks are given an interior slope of about $1\frac{1}{2}$ inch, and an exterior slope of $2\frac{1}{4}$ to 3 inches for every ten feet of height. It may be laid down as a general rule, to determine the exterior lower diameter by adding one-twentieth, and the interior one by adding one-sixtieth of height of stack, to the corresponding upper diameters. For instance, if a stack is 60 feet high, and its upper diameters are 2 feet and $3\frac{1}{2}$ feet, then the corresponding diameters at base would be $2 + \frac{60}{20} = 3$ feet, and $3\frac{1}{2} + \frac{60}{60} = 6\frac{1}{2}$ feet. A round stack, in order to resist safely a wind of 100 feet velocity per second, should have an exterior diameter of not less than one-twelfth part of its height.

The draft of a smoke stack being dependent upon the temperature of the rising air, it is important to protect the current against cooling off. Bricks being bad conductors of heat, are therefore best suited for their construction among the cheap materials, but care should be taken to lay them with narrow joints, filled in solid throughout, so as to avoid a lateral access of cold air, which would act like a blow pipe. The bricks must be well burned, so as to have little porosity. The porosity of the soft brick is objectionable for two reasons; firstly, because the dirty humidity of the chimney and its accompanying bad odor, will be transmitted to the adjacent walls; secondly, because the porous material offers plenty of passages through which cold exterior air may enter the stack in minute particles, when the inner air is much diluted and a strong pressure of wind acts from outside. Large chimnies should always be built with hollow walls; an air-space of an inch or $1\frac{1}{4}$ inch will answer best. At all events bends and irregularities should be avoided in any stack, and the inner walls should be plastered as smooth as possible, in order to reduce the friction of the air against the walls,—that important element of smoky chimnies. It is

advisable, when constructing large stacks, to wall in iron bars at intervals of 2 to 2½ feet across an inner corner, which form a vertical ladder for mounting the stack. The foundations of large stacks should be laid with extreme care, so as to avoid an unequal settlement of the masonry, which may cause the falling, or, at least, a dangerous inclination of them. The foundations should be started upon a base at least three or four times larger than the section of base of stack. Indifference in this respect has frequently led to disastrous results. Factory stacks receive, for better effect, belt courses and a cornice, similar to the capital of a column. These are best constructed of bricks with an iron covering plate for protecting the joints against being washed out by rains, or of well jointed cut stone. Heavy cast or wrought iron cornices should be avoided, since their larger weight increases the unavoidable vibrations of the stack during heavy winds.

By judiciously applying such well known principles, the action of chimnies is brought within the domain of exact science. However, that accomplished quack, the smoke-doctor, will flourish, most likely, as long as the worthy medical profession are in competition with patent medicine.

The causes of smoky chimnies may be recapitulated for dwellings, under two heads, the first of which contains the preliminaries for the success of the second; it is foreign to our present subject, and consists of a proper arrangement of the fire-places, whilst the second sums up thus:

1. Insufficient height of the chimney.
2. Too small or too large a section of chimney.
3. Friction in the chimneys. Flues being built, very properly, adjoining, interfere with the working of each other, if a building in settling has formed cracks in the partitions, and one flue is heated up, whilst the other is not.
4. Too large discharging orifice of chimney.
5. Action of wind, rain and sun on the discharging orifice. This is remedied by raising the chimney, or fitting the well known cowls on them.

A downward current of wind may, for a large orifice and a low velocity of the gases, press down the interior column in whole or in part, if it slides down along one side of the chimnies, and by friction carries along a part of the rising gases.

If the side walls of the chimnies have become wet in consequence of heavy rains, against which it

has not been protected, the smoke stack will be robbed of a large amount of heat whilst the water is transformed into steam. This steam mingles with the air in the chimney and forms a moist air which is specifically lighter than the dry air of same temperature and pressure, but does not thereby compensate at all for the above stated loss of heat. The flues should be covered in, therefore, so as to keep off the rain.

The strange fact that some chimneys won't draw when the sun is high and throws its rays in the mouth of the chimney, is not satisfactorily explained. However, during warm weather the draft must be smaller in the chimney on account of the smaller difference between the temperatures in chimnies and open air.

Now, if the main walls of houses and consequently also the side walls of chimnies are considerably colder than the exterior air,—which is frequently the case in the spring, and also in the summer after continuous wet weather—and we have a continued hot sunshine, with no fire on the hearth, a cold column of air will constantly descend in the smoke-stack, unless the contrary is caused by favorable winds. Other causes combine, and it is necessary that the rays of the sun should heat the upper part of the chimney as much and as equally as possible, so as to lessen the weight of the column of air in the smoke-stack; it is also necessary to keep off from the smoke-stack the exterior downward current, and all this is effected by properly arranged cowls.

6. Contrary drafts. A chimney smokes frequently in a double parlor, because the fire in the adjoining room has a more lively draft, or in case the house is heated in part by furnaces, if the stair-case is high, well heated up and draws the air of the parlor more vigorously than the chimney, so that the smoke descends, in order to fill the void created. In this case the doors must be shut, the windows opened and a strong fire must be made in the smoky chimney until the temperature of the chimney is high enough for establishing a regular draft.

7. One common chimney for several fire places. In this case independent metal pipes must be inserted for each fire.

8. Openings left at lower end of flue "for ventilating the latter," as called for in many specifications. The lower end of flue should be well closed, so that no cold air can enter and cool off the rising current.

I shall add only a few words in relation to smoke-flues as simple and efficient aids for ventilating apartments, wherever artificial heat supplies the time-honored open fire place; which, whilst objectionable to economy of fuel and for keeping up drafts, conduces to health in replenishing the air. Adjoining or between two smoke-flues there should be inserted ventilation flues, commencing just below the cornice of the room to be ventilated. The necessity of placing the ventilation flues between the smoke-flues is obvious; the thin brick partitions are heated up by the smoke-flues and communicate this heat to the ventilating flue, which thereby sucks the bad thin air rising to the ceiling of the room, and leads it into the open air above the roof, where the ventilating flue ends, at same height with the smoke-flues.

According to size of room and number of persons occupying it, a corresponding number of ventilation flues are built; for instance, one flue of 4 by 8 inches will suffice for a room of 9,000 cubic feet, which is occupied daily by eight or ten persons.

Rooms which are heated by iron stoves or furnaces are frequently filled with much dry air, and are freed from this, in part, by the flues described above, and in part by the ventilation flues in the outside walls, commencing three inches above the surrounding ground and leading to the room, one foot above the floor. It is necessary to have registers for these lower flues in order to obviate cooling off during heavy winds. No registers are necessary for the upper flues, since the wind cannot descend from above if the smoke-flues are properly arranged, and the room will not be cooled off by the bad air being discharged. The wholesale rejection of ventilators near ceilings of rooms by a certain school of ventilation men is erroneous, since the elements of heat and the diffusion of gases are not given proper weight by them.

If carbonic acid, of course diluted by heat and other gases, would not rise, no smoke-stack would work.

Suppose we enter a room filled with pure air, containing no more than its constituent part of one-twenty-fifth per centum of carbonic acid, and having the normal temperature of 65°. The process of respiration raises this temperature to 98°, and vitiates it with 4 per centum of carbonic acid.

The increase of heat dilutes, by expanding the volume, while the carbonic acid adds to the density. The result is that 1000 cubic feet of the respired hotter air weigh but 72 pounds, while the weight of an equal quantity of the colder pure air amounts to 76 pounds. By opening an upper register the foul air will escape, in consequence. If you do not provide an outlet above, however, it is easy to reverse the current. Judicious action in both cases is necessary. Too much and too little zeal in the good cause of ventilation has killed more people, by exposing them to undue drafts, than want of fresh air has ever done.

Where sewerage is not accessible, cesspools may be ventilated in like manner, so as to prevent the rising of the bad odor into the privies. The cesspool is to be arched, the manhole for cleaning it out is to be shut air-tight; nine inches below the apex of the arch a ventilating flue is started in the wall, with an opening of, say, six inches wide and twelve inches high, leading above the roof. This ventilating flue is connected with the smoke-flue of a range or cooking stove, being separated from it simply by a one-quarter inch thick cast iron plate. By the continued heating, in summer and winter, the smoke-flue heats the iron partition plate, and consequently, also the ventilating flue, which sucks the bad air from the cesspool and any pipes or ducts leading into it, and conducts it above roof.

The smoke pipe should be, in this case, about 14 inches square, and the ventilating flue may be six by 14 inches in addition.

In treating a detail in the science of construction, the temptation has been great to encroach upon the important subjects of heating and ventilation; in fact it has been difficult to separate it from these corollaries, but it is believed to be of more solid service to exhaust than to enlarge.

Let the community understand that the matured conclusions of men who have studied the physical laws, underlying the movement of the air, are worth more than the mere notions or vague ideas of the chimney-sweep and bricklayer who have not the preliminaries for combining isolated phenomena to a correct observation, but who enjoy the hollow prestige of being so-called "practical men," and are admired if by chance they hit the case!

At the conclusion of the reading of the paper, the chair announced that discussion was in order.

Mr. WIGHT:—I would like to ask Mr. Cluss' views as to the relative advantages of a pargetted flue and a flue with struck joints?

Mr. CLUSS:—The pargetted flue is no doubt the best, because the greatest smoothness possible is to be striven for. The principles that I have laid down in this treatise, I have based in part upon the principles observed in the Navy Department in the construction of smoke stacks.

Mr. DUDLEY:—I think there are some errors in the paper in regard to the time of the introduction of chimneys. It speaks of their not being introduced until the time of Elizabeth; but Britton in his *History of Architecture*, gives accounts of chimneys in the Norman style which must have been built during the Eleventh Century.

Mr. CLUSS:—That may be, but I gave the best information that I could obtain.

Mr. RUSSELL STURGIS, JR.:—The earliest monastic and domestic Architecture in France that remains, has perfectly working chimneys—certainly as far back as the Eleventh Century. And in England, if I am not mistaken, they had them as early as that. In the book of Hudson Turner, in the other room, he has drawings of chimneys in the Eleventh Century—chimneys topped out at the roof, and with more than one flue in the stack.

Mr. WIGHT:—I think that Hudson Turner says considerable about the subject of chimneys. He mentions that houses were originally heated by open fire-places without chimneys, there being only a hole in the roof; and then he goes on to tell how chimneys were gradually developed.

Mr. DUDLEY:—Some of the finest samples of chimneys that we have in England, certainly were of the Fourteenth and Fifteenth Centuries.

Mr. STURGIS:—I would like to ask Mr. Cluss if he has discovered the object of the inverted cone at the top of those strange Venetian chimneys. The chimney is round, made of marble or brick, and is capped by an inverted cone, or with something resembling a flower-pot with the mouth up. With a diameter at the bottom of, say, ten inches, it

flares slightly, so that it has precisely the appearance of a flower-pot set on a cylinder. I never have heard any proper or sufficient explanation given of its object.

Mr. CLUSS:—It is only the outside of the chimney, not the inside. On the inside the chimney is straight. If you take the lateral openings of most Venetian chimneys you will find that they do not exceed the width of the stem of the chimney.

I think that this top was essentially the happily conceived exterior form of a Classic Age.

Mr. STURGIS:—The opening is at the top, not at the side.

Mr. CLUSS:—Not always.

Mr. STURGIS:—I mean the majority of them. The type is certainly a chimney open at top.

Mr. CLUSS:—I do not say that all are open at the side, but in most cases I have found it so. I think that it is for Architectural effect.

Mr. DUDLEY:—I have found that the trumpet shaped top produces a better draft.

Mr. RENWICK:—It is probably on the same principle that a water-pipe will receive and discharge more water if both ends are made conical.

There have been several law suits in the case of mills that have been allowed to take from the mill-race as much water as will go through a tube of a certain size. At Paterson there was a law suit of that kind, because they had put on a contractor at each end, and thus drawn a much larger amount of water than if the openings had been plain. You will find that at both ends of the Croton pipes at High Bridge, there is the same thing. And I suppose that a chimney enlarged at the top works upon the same principle.

Mr. POST:—I think you will find that the principle is the same as in the case of the water-pipe. The size of the pipe is first diminished and then increased. There is a point in the bell-shaped orifice which is less in diameter than the diameter of the pipe itself.

Mr. WIGHT:—I would like to call attention to an article that I was recently reading in a number

of London's Magazine for 1837. It is one of a series of papers which were probably the earliest writings of John Ruskin, and was an essay on chimneys, with illustrations of chimneys of a very early date. It is a very interesting article, in Ruskin's peculiar vein, and advances some very curious opinions on the philosophy of chimneys. I call attention to this because we are gathering information upon the subject, and because it is a matter of interest, being probably the earliest writing of Ruskin before he ever appeared as a writer on Architecture.

Mr. STURGIS:—Those papers were republished in the Crayon, but without the illustrations, which are very beautiful.

Mr. WIGHT:—In London's Magazine he gives a page of illustrations. It is divided up like a checker-board, and in each one is given an illustration of some chimney of an early date that he sketched. The book is in the possession of Mr. Upjohn.

Mr. CLUSS:—I am very glad to be corrected on the subject of dates. I took my dates from the best authors that were at my disposal. My information about English chimneys I think I took from Tomlinson, who many years ago wrote extensively on the subject. As to the French chimneys, I took my information from the new French Dictionary which has been published; and as to Italian chimneys, from an Italian work. But I did not adopt it until I saw that it was corroborated by other writers.

Mr. STURGIS:—Viollet-le-Duc has pointed out recently a curious blunder of this kind, that the invention of the wheel-barrow has always been ascribed to the Sixteenth Century, which has often been called the "Century of triumphs," whereas it is represented in manuscript cuts as early as the Thirteenth Century. So people talk about the dormer-window, as belonging to the Renaissance, when the fact is that it was very common long before that. As soon as people began to use steep roofs they had dormer-windows. I think these errors come from authors copying each others statements without attempting to verify them.

THE SECRETARY:—I have just received some news that is good enough even to interrupt the

discussion with. It is a telegram from Chicago, and is as follows:

"We organize Chapter to-morrow; I regret my detention here. S. E. LORING." [Cheers].

The SECRETARY prepared and read to the Convention the following response, to be sent to Mr. Loring.

"Convention in session. Your telegram just received, and greeted with enthusiasm. God speed your undertaking. Philadelphia Chapter was organized last week, and delegates are present."

Mr. WILLIAM R. WARE, of Boston, Professor of Architecture in the Massachusetts Institute of Technology, read a paper on the RELATIONS OF SCIENCE AND ART IN ARCHITECTURAL STUDY.*

Mr. STURGIS:—Mr. Ware speaks of the first, second, and third thing being practice in designing. I want to ask him how far he thinks a beginner ought to actually practice designing—that is, getting up ornaments for buildings, or parts of buildings—and how far they ought to be trained first in the principles of the design of first rate work, and at what point he begins with a pupil that has been studying the works of the past, to ask him to design for himself?

Mr. WARE:—I said that the question of detail is a matter of experience or experiment, on the point touched upon. My plan is to keep the student constantly, from the beginning, in what I call the *inside* of the subject, and not the *outside*. And my impression is that the experiment, so far as it has been tried, justifies the wisdom and sense of the course. The only experiments which have ever

* Mr. Ware has not furnished the Publication Committee with a copy of the paper and they are consequently unable to insert it.—The following report of it was published in the New York morning papers of November 18th:—

"The paper was in illustration of the point that while too much pains cannot be taken in the education of students to make their scientific instruction as thorough and practical as possible, their artistic education is still their distinguishing quality, and that in the pursuit of this a thoroughly artistic spirit must be observed. The attempt to introduce the scientific method into the study of art, as there is a natural tendency to do, it was the object of this paper to discountenance; and to show how a systematic training was still possible, of which the spirit should be thoroughly artistic. The scientific aspect of art, the external aspect it presents to the historian, the philosopher, and the connoisseur, is not the aspect in which the art student should regard it. He should from the beginning regard it from the inside."

come under my personal knowledge, are the methods of instruction employed in the Architectural school attached to the School of Fine Arts in Paris, and such elementary experiments as I have been able to make under my own eye. In the French school the young men are thrown headlong into the practice of design. I have myself, among the collection of drawings illustrating the methods of study and work in that school, half a dozen of the early sketches of a young man who afterward attained great distinction in the school, and they are such as a child of five or six might be expected to accomplish—little problems of a shed, a station house, &c., wretchedly drawn, abominably conceived, showing utter ignorance of the first principles of design. But they had the advantage of putting the young man into the Architect's own point of view, and starting him on that tack, and not into the point of view of the historian and connoisseur. So far as my practice has gone, I will say that the experiment has had a fair success, of furnishing the beginner, who knows nothing of buildings but what he sees in the street, with certain material, as far as may be, classified and arranged, and certain notions of the accommodation and adjustment of that material, and then letting him put this and that together as best he can. I have been in the habit of giving the young men in my charge, a little classified diagram of the very elements of Architectural form, the very A-B-C's of mouldings, and explaining to them their nature. Some of them were suitable for cornice mouldings and some for bases. Then I set them to work at once to design something—a cornice, a base, or balcony, or sarcophagus, or garden wall, or whatever you please, as far as their activity of mind will permit them to exhaust the combinations of the subject; and thus see how many different designs they can make with the simple elements; ascertain which they like best; explain how the best can be made; how the designs can be made a little larger, or a little smaller, by giving a curve a greater or smaller arc, and so on. Exactly the same thing may be made very common-place, or very interesting. It seems to me that this plan is very stimulating to the student, that it wakes up his mind, arouses his attention, and makes him feel as if he were a workman, and not a mere antiquarian.

Mr. HUNT:—I for one agree with almost everything that is included in Mr. Ware's paper. It gives

the great distinguishing points of difference between the style of education in France, and which has been more or less adopted now over the continent, and that which has existed heretofore, perhaps, to a greater extent than now, but which is still in existence in England. The theory and system in England, as I have always understood it, at least, has been that when a young man entered the office of an Architect, he articed himself to him for a certain number of years, and he was kept at work making copies and tracings of working drawings, and doing a lot of work that any John Chinaman might be expected to do, and, in fact, such work as the Architect would put a machine to work on, if he had one to do it. And what was the consequence? I am not saying that there have not been a great many able exceptions to it, but the general effect on the student was to make a machine of him, instead of improving his mind. In France, on the contrary, the moment a young man commences to learn his profession, he commences to compose. I have had a little experience in training of that kind myself, and have taught a few others, and I have always adopted the French system. I have seen young men come into an Architect's office to commence the study, who could not draw a line. And I say now, that the majority of the young men that commence do not and cannot draw a line. In France, when they teach a student to draw a line, they teach him to compose immediately. The day he enters they give him a simple problem to do, and let him work it out alone. That exercises his mind. And then the professor corrects the work of the young man. In that way they teach him, or cultivate his imagination, from the very start. I believe that we all agree with Mr. Ware in this respect; and that is the reason that it leads to so little discussion.

Mr. STURGIS:—I do not think that that is the only reason. I think that some of the doubters of the French system do not speak, because they have not had experience with the contrary. You compare the well arranged plan of the French, with the no-plan-at-all of the English. I think there is no plan different from the French, and Mr. Ware does wisely in adopting it in his own practice. It is the only plan that has received anything like a sufficient exposition. But that it is capable of great modification, nobody who dislikes the modern Architecture of Paris, will for a moment dispute.

There are a number of us who think that the result of modern architectural teaching in Paris is exceedingly cold and lifeless, and contrasts sadly with the work of the past. And, I think, a few of us would dissent from a too hearty endorsement of the Paris system, while, at the same time, we may not have a better one to offer.

Mr. HUNT:—The advantages in France have been very great, greater than they have in any other country, because they have been for centuries working up this school of theirs in all the branches of the Fine Arts. But, at the same time, education has been going on, according to the different systems, in other parts of the continent; and in England Architecture has been in existence, and this same system which they have had until very lately, that of bringing up young men as working boys, without training their imaginations, has existed for centuries, just as long as any of the Fine Arts

Mr. STURGIS:—That is what I call the no-system.

Mr. HUNT:—That is the only system that exists in opposition to the French. Under that system, if you are going to teach a young man, he goes into the office and copies the designs; and, instead of enlarging his mind, you pin him down to narrow ideas. Practice obliges him to do a great many bad things, and you are merely instilling into his mind abominations that we all have to do, because men won't pay for putting up decent things. That is all you are putting into the young man's mind according to the English system.

A word in regard to modern Architecture in Paris. I have been all over the northern part of Europe, and in Italy and Greece, and seen what they have done, and certainly Italy and Greece are dead as to Architecture. And for any man to walk through the City of Paris to day, or to go all over France, and then to say that, in their Architecture, they are not far ahead of any other country—demands an explanation. [Laughter.]

Mr. F. A. PETERSEN, Visitor:—If a man who has not been here for several years past, has any voice among you, I should like to say a word. The two papers that have been read this morning, and the remarks of your Chairman, are, in my opinion, of the utmost importance. The first paper showed us

how important science is in our profession. It was an absolute, technical, scientific essay, and it elicited discussion immediately. Every one saw how important it was to understand that thing completely, and therefore admitted silently that Science is an important element in Architecture. The second paper, very able and very interesting, started upon the point that scientific education is of no avail and no necessity for the student of Architecture; and that art and artistic views are exclusively necessary to the Architect. The Chairman classified and specified the errors of the present mode of educating young men; and also vindicated the modern French Architecture from the remark that it was cold and lifeless.

I think, sir, that both views have a certain degree of force. I think that we all will agree that without a perfect understanding of construction—in other words, without a perfect understanding of the laws of gravity, and of a great many other branches of applied science, we cannot expect to build anything that deserves the name of Architecture. When we remember that the briefest and best definition of Architecture is that of “beautifying utility,” then we will all agree that to make a useful structure is the first thing, and to beautify it and put it in accord with all the laws of art is the second thing. So much for these papers. I think, therefore, that the proper method of education lies half-way between the papers.

REMARKS BY MR. PETERSEN ON THE STATE OF THE INSTITUTE.

But sir, if I am not taking up too much time, to me these papers and their tenor suggest something closely related to the Institute. As I have already said, I have not attended the meetings of the Institute for many years; and I must confess that conflicting emotions fill my mind when I look around. I am very much pleased to see the large number of young brother Architects that make their appearance. I am pleased to see how active most of them are in the proceedings. But I must say that I feel sad when I look around and miss many of those who with us, Mr. President, were active in the organization of the Institute; those who took the most active part when the Institute was put in

its cradle and raised from its infancy. I miss, particularly, men who are endowed with talents second to none. I miss men who have had long experience, and who by a long period of tedious labor, and by their usefulness, have created for themselves, I may say, a fame. When I heard the able address delivered by our venerable and honored President yesterday, some sentences forced themselves foremost in my mind. In one of those sentences the President said, very truly, that those who give the public the best work receive the largest share of work. That is undoubtedly true; but, sir, if you send that truth into the world, you must permit the public at large also to draw the opposite conclusion that those who have the largest share of work are the best Architects; and I think that is an error. I think that is not the case. But still that dictum stands in the President's Address, and will go before the public. I refer to this because of my conversation with some of the members lately. I find that a certain spirit has gained precedence in this Institute which has induced some men to withdraw, who enjoy the respect and patronage of the community to as large an extent as anybody else; some who have been most active in the organization and fostering of the Institute. When such things occur as I have described, we may always be safe in saying that there is a mistake, that there is an error, that there is some wrong on one side or the other, and most likely on both. When, as was suggested in one of the reports read yesterday, to be desirable, this Convention comes to revise or amend its Constitution and By-Laws, then I shall take the liberty of recommending to your consideration the point that I have just raised. It will not do good to the profession, whose welfare every one of us has at heart, to allow the community to say, "Here are men that do as much Architectural work as anybody else, and they have ceased to be members of the Institute." Men have ceased to be, or have hesitated to become members because views prevailed in the Institute that were hostile to their views; and, therefore, there is a wide split in the profession, which ought not to exist. How that chasm may be overbridged I will not suggest; but that it ought to be seems to be a fact that cannot be denied. Gentlemen, I find the young element predominant here, and no one can be more happy than I am to find it so. Every

institution of this kind will yield the greatest benefit to the young. But, sir, it will not do to allow the people to say that the old men of the profession do not belong to the Institute because the young men seem to domineer over them, because certain new styles of Architecture seem to pave their way ahead, and want to suppress and trample under foot the others. Do not forget that those old members of the profession did not have the advantages that we enjoy; that they had not the benefit of consultation with their fellow Architects. On the contrary, you, Mr. President, will remember the time when every Architect looked upon a fellow Architect as an enemy, and did all in his power to suppress him, and perhaps to injure and slander him. You must not forget that under those difficulties, men gradually built up so much of friendship and of harmony, that the foundation was laid for this Institute. Remember that the time is not far behind us when a man who wanted to build a house in the city of New York, did not first apply to an Architect, but went to a builder, a mason, or a carpenter, who perhaps had done some repairs to his store, and asked him who was the best Architect. The mechanic was first applied to before the Architect was talked of. And do not forget, on the other hand, that good dwelling houses in the past, that cost from ten to twenty thousand dollars, were the exception; while to-day we have palaces here that cost millions of dollars. And then do not forget to bear full testimony to the merits and services of those gentlemen who rendered you this assistance, whom you have, either intentionally or by accident, prevented from becoming members of this Institute. And bear in mind that this difference of opinion, or rather this split, is not a thing of the present only, but that it will always have its evil influence in the future. We have just heard from our Chairman about the education of young students of Architecture. Do not overlook the fact that those gentlemen who, in hostility of feeling, have either withdrawn from the Institute or have never joined it, will instil their views into the minds of their students; and that, therefore, we shall very soon have two classes of Architects in this city. One, the pupils of those most employed, most patronized, most respected by the public at large, will follow one practice, and the other, those who are the pupils of the members of this Institute, will

follow another. And do not forget that if we follow strictly this or that line of education for admission, that other men may go further than you and not admit anybody in their Institute who does not follow a certain style of Architecture. There will be an institute where nothing but Gothic shall be planned and practiced. There will be another school where nothing but the Renaissance is taught, and he who does not follow it cannot be admitted; and another where Greek Architecture alone is taught. All these things we have avoided, and let us hope that the great zeal of the younger members of this society will not prevent us from revising the practice, the rules and Constitution of the Institute in such a spirit, and to such an extent, that we may not inflict upon the country this latter evil.

MR. POST:—Mr. President, I think it proper, in view of the remarks of Mr. Petersen with regard to the "great split" that has taken place in the profession, that a short statement should be made by somebody as to what that split consists of; and I suppose that I may as well make the statement as anyone else. There are some seventy Architects connected with the Institute, and *three* gentlemen took umbrage at certain things that were done here,—at certain amendments that were proposed to the Constitution and By-Laws,—and those three gentlemen withdrew. Three men against seventy! I do not think that that is a very important split. I do not think that it deserves the name of a split. I do not think that it can correctly or truly be said that men who have the largest practice, if we except one or two, are without the Institute. I think the great majority of the good work done in the country is done by the members of the Institute.

THE CHAIRMAN:—I would like to add a few remarks to those of Mr. Post in answer to Mr. Petersen. The ideas expressed by Mr. Petersen in regard to opening the doors of the Institute of Architects as widely as they can be opened, were the ideas that did exist heretofore. When we established, twelve years ago, the original American Institute of Architects, we "fought it out on that line" year after year. I then said, "Gentlemen, we have no business in an establishment *de novo*, in a country like this, to come within four walls and say to the public, 'We

are Architects and you are not Architects;' the public must decide whom they will employ, and whom they consider Architects." There were certain gentlemen at those previous meetings that said, "Mr. So-and-so does a great deal of work, it is true, but he is no Architect." And they tried to have us resolve ourselves into a sort of Mutual Admiration Society with only a dozen or fifteen members. Certain members, however, tried year after year to induce some of these outside Architects to come in, on the ground that if we were such a little close corporation we would never effect any good.

Let us take in every man that is practicing Architecture, and as long as he holds to the only restrictive clause that we have in the Constitution, "the honorable practice of the profession," aesthetically we will not consider him. But let us open the doors and take them all in, and then when they are in let us try to come to some understanding as to what is best for the practice of the profession. If, after we have got them all in, and we all agree to practice honorably in our profession, members are found to practice dishonorably,—I think I was the first to suggest it,—why, form a tribunal of justice and turn them out. I think we did finally, about eighteen months ago, provide that such a thing might be done, but I do not think that it has been carried into execution. I wish to prevent the inference being drawn that we are shutting the doors. On the contrary we have been to considerable expense—and we do not like to waste money—to provide circular letters inviting everybody to join us, and we have been sending them around inviting every one to come in. I really wish Mr. Peterson would take about five hundred or five thousand of those circular letters and distribute them and bring these men in. [Applause and laughter.]

MR. PETERSEN:—I certainly shall take a good many of those letters and try to see what I can do. [Applause and laughter.] My remarks were merely to bring out a thorough consideration of this point. Nobody more strongly than Mr. Hunt and myself has fought this battle to open the doors to all who practice the profession honorably. But in the latter instance we have to be very careful not to mix up the practice of a man twenty or twenty-five years ago, before the Institute existed, with the practice of the younger members who have come in since the organization of the Institute. Otherwise we

act precisely as some laboring men acted in another matter. Two gentlemen of a certain standing in society had occasionally become intoxicated; each of them had a large family of grown up children; one five and the other three. The old gentlemen very soon discovered the error of their ways and abandoned drinking; and then, thinking their former example might induce their boys to become intemperate, they persuaded them to form a temperance society, which they did, adopting by-laws and a constitution, and then they looked out for new members. One of them proposed his father; "No," said one of the others, "your father is a rummy and he can't become a member of the society." [Laughter.] If the man had been drinking after taking the pledge, then it would have been all right to exclude him. But if we find fault with a man's former practice because it does not accord with the rule that we have since established, then we are acting wrong. [Applause.]

Mr. RICHARD UPJOHN, President of the Institute, then read the following paper:

THE COLONIAL ARCHITECTURE OF NEW YORK AND THE NEW ENGLAND STATES.

The progress of Architecture in this country is traceable in the older works before the Revolution, and a consideration of its development cannot be treated properly unless we commence at the beginning.

An investigation of the buildings erected in the Colonial times may show us what foundation we had to start upon, and will call up serious reflections as to whether or not we have made those improvements upon the works of our predecessors which the general progress of knowledge throughout the world seems to have demanded.

A few of the Colonial buildings yet remain—just enough to show us with what care the best of them were built, notwithstanding the very limited development of the country at that time. They give striking evidence of the taste and skill then prevalent. Most of them are built in the prevailing

style then in use in Holland, England and other countries of Europe. The most ancient of them are those erected in the Dutch Colonies, and are to be found in New York State, in this city, in Albany, and in the States of New Jersey and Pennsylvania. Some of the oldest of them are the churches erected by the Dutch in this city. One of the most prominent is the North Dutch Church, in Fulton street, which has been demolished during the past year. Its history has often been written and is well known. I may also mention the South Dutch Church, now the Post-office, whose days also are numbered. Valentine's History of New York gives a complete and authentic account of these and many other old buildings in the City of New York, and I need not go over such well trodden ground by giving detailed accounts of them. Old Trinity, thrice rebuilt since that time, and St. Paul's, still one of the most prominent landmarks of the city, standing in almost pristine vigor, should not be forgotten in this connection.

Of domestic buildings of that period scarcely any are left in New York, and none in their original condition. There are several, however, in Brooklyn; and one of the oldest houses now standing in the United States may still be seen in South Brooklyn on Fifth Avenue, near Greenwood Cemetery, with the date 1699 in wrought iron figures, forming the anchor heads, on the outside. It is a brick building, built, as was usual at that time, of bricks brought from Holland, and laid up with mortar probably made of shell lime. It is remarkable that the gable walls of this house are without coping, but are finished with bricks standing anglewise and forming the zigzag lines still seen on the gables of houses in Holland and Belgium; yet the mortar joints, exposed to the weather two hundred years, are still intact. Albany, a quarter of a century ago, had several interesting houses, well worthy of preservation; but the enhanced value of the land on which they stood proved their doom, and they have been swept away, giving place to other structures of more pretentious character, but of very questionable superiority. One of the best residences of those times is that of the Patroon, at Albany, built about 1750. It is a spacious building, well arranged as to plan. It was enlarged and beautified by the late Patroon, Stephen Van Rensselaer, Esq. He applied to the writer for

plans, which, being presented to him and approved, were carried out.

This building too, commands respect for its long and interesting associations with the history of this country. I fear, however, that it will not long be allowed to hold its position, but will give place to the enterprise of the day, (which has very little respect for the works of our ancestors,) and will only be known in history.

Of domestic architecture we have many good examples, still standing, in the New England States. Boston, Cambridge, Newport, R. I., and New London, Connecticut, all have more or less houses illustrative of the works of the times of which I am speaking, giving evidence of a taste and refinement much superior to that which prevailed immediately afterwards.

New London was the residence of the famous Governor Winthrop. His house still remains; a good example of domestic architecture, and beautifully located, being placed at the head of a small creek which opens to the harbor of the town, and affords an excellent view. It is now the residence of Charles Lewis, Esq.

The Ecclesiastical Architecture of the Ante-Revolutionary days, was, in almost every instance, far superior to that of the period subsequent to the Revolution. Then every trace of refinement, of truthful expression and fitness of purpose, was lost sight of. Not a vestige of sacred thought can be discovered in the houses of worship of this period. Of the Ante-Revolutionary Churches, some of the best examples are to be found in Boston, such as King's Chapel, on the corner of School and Tremont streets, Christ Church, at the north end of the city, Brattle Street Church, and Christ Church,* Cambridge. These are all worthy of study and will well repay the student for the time which he devotes to them—the King's Chapel especially.

Trinity Church, R. I., if not altered, since I saw it last, still retains the arrangement of the Church as was the usage from the Reformation down to the period of its construction. There is another building in Newport—the Library—also erected before the Revolution. It is a Roman Doric structure, of very good proportions, built of wood, and is still in very good preservation. It is to be hoped

*Certain alterations made some years since in this church have decidedly injured its effect, and are not worthy of consideration.

that it will be repeated at some future day in stone, that its character may be handed down to posterity. The author* of this building, and of several others in New England, was from England. He has left many proofs of his good taste and skill. Providence, R. I., can boast of having the best Renaissance spire in New England—that of the Baptist Church. It has stood the storms of more than a century, giving evidence of faithful workmanship; and the taste displayed in its design is unequalled in the Eastern States.

Mention may be made, in this connection, of some of the old State Houses. Boston State House, standing in the middle of the street named after it, and fronting on Washington street, is a quaint nondescript building, more famous for the works done in it than for its architecture. Historical associations and the reminiscences of the building will keep it in good and lasting remembrance. Before leaving this goodly city, I will mention another building famous for the memorable events discussed and public business done within its ancient walls. With Faneuil Hall are associated memories of the early days of the Revolution and of the Independence of the people of this country.

Newport, the capital of Rhode Island, has a very substantial State House. The exterior is not so permanent in an architectural point of view as was the interior previous to the mutilation to which it was unfortunately subjected. The hall required to be enlarged some years since, and this necessity led to changes which were totally destructive of its excellent character. It is now quite suggestive of whitewash and plaster. These disfigurements ought to be removed before it is too late, and the ancient work should be restored. If more room is required, the style of the original building should be adopted for the additions.

The residence of the Governors of New York, situated on the corner of Broadway and State street, opposite the Bowling Green, was, before it was mutilated, a very excellent specimen of the first-class houses of the eighteenth century. The Livingston

*Smidert, an Architect and Painter, came to this country from England with Bishop Berkeley, in 1723. He was engaged to design buildings for the colleges and divinity schools then intended to be established at Bermuda; Walpole, at that time the Prime Minister of England, having promised to furnish, on the behalf of the home government, twenty thousand pounds sterling to accomplish the same. Walpole, however, failed to fulfill his promise, but devoted the money to paying for the marriage outfit of a Princess Royal.

Manor House, on the Hudson River, near Tarrytown, is another example of the houses of the gentry of that century. It has recently gone out of the possession of the family, and considerable additions and alterations have been made to it. Perhaps some one here may be able to tell us more about it,—especially with reference to its restorations.

I might mention many other buildings of this class still standing, several of them in the neighborhood of Newburgh, including the old Hasbrouck House, better known as Washington's Headquarters, if time would permit.

The talented Members of the Academy of Design would do well, when sketching and painting their fine landscapes, to make careful studies of some of the old houses yet remaining,—houses that will be buried in oblivion in the course of another century, unless faithful records are kept of them by all hands. The reminiscences of the last century, so beautifully pictured in the writings of Washington Irving, have not yet been illustrated in such a masterly way as to do justice to the work of such a clever writer. Pictorial records of the places treated of in his writings should be carefully collated and preserved.

And let me ask, may we not gain a valuable lesson while contemplating these works of our forefathers? Old and quaint as they are, will we not see by comparing them with the works of our own hands that their authors regarded the law of harmony between a building and its surroundings better than we do at the present day? Careful observation must convince us that in the generality of cases they were ahead of us in this respect, and that in the treatment of country houses, especially, and even the most humble ones, they displayed a sympathy with the beauties of nature seldom expressed at the present time.

And in this connection I beg leave to give a passing hint to my friends, the Fellows and Associates of the American Institute of Architects, that every design of a house, a barn, a gate or any other thing intended for use, and which is to be seen, enjoyed and thought of, must most certainly be associated with trees, and shrubs, and clouds, and sky; in fact with every thing which makes the glories of nature abound with the richness and fullness of the gifts of God. I say that your designs must participate

in the nature of the things by which they are surrounded, and that, if so partaking, they will be, to a certain extent, according to the genius you possess, works of art, and will harmonize with every object that makes the landscape a picture to which your effort is to be as the touch of a master hand; or, otherwise, a blot, a daub, a wart upon a heavenly countenance. It is useless to attempt to accomplish any artistic work, unless this is duly weighed and considered. You may as well expect a person to become a clever performer of music without an ear, or to gather fruit from a tree that never blossomed. I have used the word "Genius," a faculty, a gift of nature by which we intuitively perceive beauties and harmonies which afterwards we investigate, think and reflect upon, observing the creative energy that is ever present and going forth in the midst of this terrestrial world of wonders.

If your action is derived from this source of nature, this stream of light, we shall succeed; it may be, tardily; the effort may be wearily performed; yet it is made, and the work is accomplished,—a step has been taken in advance. This, then, is a beginning of progress in the path of increasing knowledge, which, if industriously followed, will certainly ensure success.

MR. HUNT:—In connection with this paper I should like to ask Mr. Ware concerning that old familiar building in Boston, down near Faneuil Hall. It is an old building with brick "nogging," that has stood for two hundred years; and I have not seen a man in our day who has dared attempt the thing.

MR. WIGHT: I can show you a modern building made in this way at Byram Point. It was designed by Le Moulner, I think. When I saw it last it had been unoccupied for some time, but it did not appear to be injured by neglect more than any other house would be. It stands on a point jutting out into Long Island Sound.

MR. WARE:—That old feather shop in Boston, with the date upon it, was pulled down about eight or nine years ago. I am not sure, but my impression is that it was not brick nogging. I have a very distinct impression that in that building the plastering merely took the place of the boards,—that it was a frame house, and that the frame was

not filled in solid between, but instead of being boarded and clap-boarded, it was covered with this plaster. I cannot state positively, but I feel quite confident in my own mind that it was double lattice work, with the laths crossing each other, with openings of about an inch square,—that that is what the walls were made of—and there was additional lath and plaster inside. There was, however, a point of interest about that old house, which was its decoration. The surface was very rough and, I think, a part of it, at least, was decorated as is not unfrequently done now, with pebbles thrown against it. But a part of the wall was decorated with some panneling which was apparently done in this way: The ornamental form, whatever it was, was cut out in wood, fixed temporarily on the first coat of plaster, then the second coat of plaster applied, making a rough cast, and then the wood was taken away, leaving the smooth plaster about half an inch below the ornament. I remember, when I was a child, examining the building and seeing this decoration.

The most interesting old building in that part of the country, however, is the old meeting house at Hingham, which has within a few months been renovated.

Mr. PETERSEN:—The paper just read by the President is undoubtedly of great interest in more than one respect. It teaches us particularly that our country is not so young as people like to make us believe. But there is a point to which I will call attention. We know the Architect of the Parthenon, we know the Architect of St. Paul's and St. Peter's, but we have not the name of a single Architect of any of the buildings to which the President has referred. I would simply suggest that the President be so kind as to take pains to get and add the names of the respective Architects of these buildings to his paper.

Mr. UPJOHN: I will do so. I suppose some of them can be found by examining the history of church edifices.

Mr. STURGIS:—There is one other modern building of the kind that Mr. Hunt speaks of, and that is a building filled in with brick, an Episcopal church at Brattleboro, Vermont. It is made of very heavy timber, and I think the timber is washed yellow. If I remember rightly, the surface

has the color that wash would give it, and not oil paint; and the bricks are painted a dark sky-blue, or deep ultramarine; the effect is very fine.

Mr. HUNT:—I wonder if it is tight?

Mr. STURGIS:—I have been in there many times and I never saw any water come through.

Some of the most curious houses in New England are at Farmington. I promised a paper on those houses last winter, but I have not had time to prepare my drawings. I know of one that had a record running about 230 years. It is covered with old clapboards. The chimney, which is built of stone, is right in the middle of the house and goes through the roof. It is very curiously ornamented with a sort of conventional ornamentation.

Mr. HATCH:—An instance of building with timbers and filling in with brick may be seen on the Ridge Road to Fordham. It is a stable and carriage-house that were built in that way about twelve years ago, and they are very creditable buildings for that time.

Mr. WIGHT:—In the course of my excursions I have had occasion to notice some remarkable houses in New Jersey. Although they are not covered by Mr. Upjohn's paper, I think it is well to call attention to them, and to suggest that those buildings be drawn out, or sketched, as parties happen to meet with them. Those I have noticed are principally on the upper Hackensack River. I have seen one or two with considerable carving—houses of the last century. And I found what was quite remarkable, a house built with two kinds of stone, a thing that I supposed had not been done at all during the last century. It was a house beautifully finished with very finely cut stone, and is used now, I believe, as a tobacco factory. I would also like to mention a very celebrated barn in Brooklyn, that has been demolished within the last year. Some time ago I made some mention of it, and I had intended to measure it, draw it out and explain the construction at some time to the New York Chapter. When I went out to see it the other day, I found that the whole thing had been destroyed. I claim that it was the first building in America that had the Mansard roof.

Mr. HATCH:—There is also a very old church at

Yonkers called St. John's church. It was founded in 1654 by John Phillipse. The nave and tower are still standing, and are in an excellent state of preservation; the mortar joints of the stone work being at this time harder than the bricks in their immediate vicinity.

Mr. R. G. HATFIELD, of New York, read the following paper:

ELEMENTARY TRAINING OF THE ARCHITECT.

The desire, common to us all, for the advancement of our noble profession, the interests involved, public and private, co-extensive with the interests of our whole country, urge us to renewed efforts, year by year, in the good work of combining all the influences, interior and exterior, calculated to advance the character of the Architecture of our great and growing country. The power to effect this, is commensurate with the greatness of the interests involved; far greater than can be hoped for from the few, however powerful their energies. It is by the accumulation of small efforts from the many that we may hope for all true advancement.

As one of the many, therefore, I offer the following suggestions, with the hope that they may contribute, in however small a degree, towards the furtherance of the interests of the profession, and, combining with many other and greater efforts, prove like the accumulation of rain drops which, forming rills, brooks and rivers, at length force their way irresistibly to the ocean.

The object engaging our attention is Architecture.

What is Architecture?

Architecture is not *building* simply, but *building well*.

Man, in common with the beaver and the bee, from the first had need of shelter from sun and rain. His earliest work, tending to supply this want, having only utility in view, was not Architectural—not until a modification of his first rude structures was made with reference to a gratification of his love for the beautiful, did he enter upon the work of our profession; but then and there, infinitely small as was this first effort, was the work upon the great edifice, Architecture, commenced;

and, slowly as were the first steps of progress, during those early centuries, yet from the moment of that first effort to beautify a building, from that moment onward through all succeeding ages down to the present age, has the great structure of our profession continued to rise; very slowly, and even set back, at times, yet on the whole, progressing, constantly growing to a more full development, ever aiming at completion, yet still incomplete, ever aspiring toward perfection, but still imperfect. Like the great cathedrals of Europe, as those of Durham, Winchester, Gloucester and at other places, marking in the same building the various steps of progress in Architecture through the centuries occupied in their construction: ever progressing and still incomplete.

Architecture is a great structure—the work of man. Are we at work upon this grand old building? Those who would work acceptably, must apply their efforts at the top, at the highest point of progress. Those who desire to undermine, operate at a lower point, but those who wish to see the walls rise, must work at the top and so build, not only that their own work shall have a place there, but that it shall serve for a foundation for all future builders who build still higher. Unless the work we produce is superior to that already produced, the profession is not advanced by our efforts.

We claim to be workmen upon the Palace of Architecture. Is our claim well founded? Are we profitably at work upon the building? Are we competent workmen? Have we the requisite mental energy, acting in and by a well balanced intellect? Have we an ample store of knowledge? Have we an intimate acquaintance with the history of the profession, of the history of each important monument of Architecture? Have we carefully gleaned from the experience of our predecessors in order to have it as a guide to our work? Have we that scientific knowledge requisite to enable us to avail ourselves of the experience of others, and to apply to present work principles wrought out by past experience? Have we the critical acumen required in allotting in due proportion, solids and voids, breadths, lengths and heights, apartments and passages? Are we competent in pneumatics and hydrostatics and ready to decide what arrangements are necessary for ventilation and water facilities?

Will our knowledge of acoustics and optics enable

us to arrange for comfortable hearing and seeing? And can we so arrange the whole structure that the greatest degree of convenience in use may be obtained; and thereby attain all that goes to secure *Fitness*, the first great requisite of Architecture? And are we possessed of such a knowledge of materials and the manner of placing and maintaining them as shall secure the second requisite, *stability*? Have we also that perception of form and color, a sense of that nice adjustment between variety and unity, that harmony of parts, unity and breadth of expression required to secure the third requisite, *Beauty*? In a word, have we by acquirement and practice all that knowledge of the art of building *well*, which shall secure the three cardinal requisites, *Fitness, Stability and Beauty*?

However well balanced the mind, however great our natural power and our acquisitions in knowledge short of that needed to secure these three great requisites—not two, but three—not *Fitness* and *Beauty* alone, nor *Stability* and *Beauty*, nor *Fitness* and *Stability*, alone will be sufficient, but all three, *Fitness, Stability and Beauty*—unless we are able to secure all three we are not competent workmen.

Measuring ourselves by the rigorous requirements of the profession, how few are there who may be considered tolerable workmen. Perfection is almost unattainable in any one Architect, and it is vain to hope for so rare a quality, but we ought to be at least tolerable.

If we are so deficient, is it strange that there is so little of Architecture in our numerous and pretentious buildings? If the workmen are deficient is it reasonable to expect good work? Can the work be better than the workmen? Will a stream rise higher than its source? This may seem to reflect unjustly upon the workmen, and yet upon consideration they are not so much to blame. With some exceptions, we all have honestly and industriously striven to acquire the requisite knowledge to fit ourselves for the work; and, considering our opportunities, have done remarkably well. Had they been greater, had we had means of acquiring a more thorough knowledge of the history of Architecture as recorded in existing monuments and in books, we would with the same industry have been so much better prepared to plan, and to execute our plans, as to have entitled us to a place among workmen upon the summit of the rising

edifice of our profession; but as it is, we spend much valuable time and energy without advancing the work. The means of acquiring an Architectural profession in our country are exceedingly limited and deficient. The best that is now afforded is what may be obtained as a student in the office of a Practicing Member of the profession, having access to his library and to the plans in progress for buildings proposed and in course of construction, an opportunity valuable to a student at the *end* of a course of study, affording some knowledge of the practical application of the principles of Architecture to the wants of the age, but in view of the extent of the preparation needed, how utterly inadequate are these means to the proposed end.

And yet, this, small as it is, is more than some receive.

It is a common error for candidates for the profession to make their estimates of the required preparation entirely too low, and with this, some unfortunately have a rather exalted idea of their own proficiency.

A sketching boy is led to believe himself a “born Architect.” A graduate from college feels that he is fitted for any position in which he shall condescend to place himself. Selecting the profession of Architecture, he submits impatiently to a few lessons in lines and color from some one a few years his senior, and with alacrity, without unnecessary loss of time, unfurls his banner to the breeze, proclaiming his readiness to undertake anything from a palace to a cathedral, and awakes from his delusion only when an attempt is made to execute his first design.

Such a novice is not so much to blame. His estimate of the requirements of the profession has been formed from that put upon it by his friends or by the public, and the means he takes to prepare himself for the work are quite consistent with the profession as he has conceived it.

And here let me say a word or two to our young men upon the necessity of application. Seldom does success crown our exertions without adequate work—nay, downright hard work.

Now, what is work?

Work is the result of power skilfully applied. To accomplish work, there must be power and a machine or implement by which that power may

be skilfully applied, and proper material upon which the required work is to be performed.

As examples: water, heat and steam are powers, and the water-wheel or steam engine the machines by which these powers are applied in performing the required work.

So, also, human energy is a power, which, acting through muscle and brain, performs man's allotted work.

To produce good work, in addition to ample power the machine must be properly proportioned and well constructed, well oiled and practiced sufficiently to have worn the bearings smooth, and then furnished with an ample supply of the proper material upon which the work is to be performed.

So, in order that man shall be able to perform good work, there is needed, in addition to a full supply of human energy, a well proportioned and equally developed brain, lubricated with the oil of success, and run smooth by thorough practice or drill in the work to be done, and an ample supply of material, or accumulation of knowledge, upon which to work. A machine that is not well proportioned is weak in some of its parts, and these weaker parts suffer and so impair, if not utterly destroy its usefulness. The limit of the strength of a chain is the strength of the weakest link. An unequally developed brain has some parts weaker than the others. These weak parts suffer in proportion to the strain upon the whole system, and this suffering tends to a derangement of the brain, and thereby to impair its usefulness, if not to effect its ruin.

A talented artist of this city, a few years before his death, made, as the amusement of a leisure hour, while listening to the reading of a book, a small pencil sketch, which, enclosing in an envelope, with the words "I want \$30 for this," he sent to a well known bank-note engraving establishment, and by return mail received the \$30, and an order for more—one a week. Delaying to fill the order, he received another letter increasing the price to \$50—and still another asking him to name his price; but each with the like result. He never made the second sketch. He was a man of rare talent, and for some time before his death he had an abundance of unexecuted orders awaiting his convenience while he spent his time in hunting and fishing.

This, an example of a class, is a case of weakness. But a man may have great power and yet not succeed. His brain may be disproportioned. He may be a genius, having an extraordinary development of brain, fitting him without training for a special pursuit; acting without effort in one particular direction, results flowing spontaneously. His career is like that of a comet, brilliant and dazzling, attracting attention from a wide circle of amazed spectators, and, like a meteor beyond the control of ordinary law, like an unbridled steed, careering and plunging, producing wonder and amazement, and, like a rocket, terminating his short career in an explosion, destroying himself, if not his admirers.

Again, a man may have a well proportioned brain and ample power and yet fail of success for the want of sufficient material upon which to act. To work well it is needed that a man be furnished with a thorough knowledge of what there is to do, and this can only be had by ascertaining what has been done by his predecessors.

This knowledge is the material out of which comes, in working, the new combinations of thought which, added to the great stock of general knowledge, secure the desired progress.* Man needs education. The beaver and the bee do not need it; they accomplish their work well without it, but then their powers are limited; they are not endowed with reason, a quality in man which sets him above those ingenious animals. They, as mere machines, do only that one particular work for which they were designed; but man, who is installed creation's lord, may use his superior powers at will upon such of the products of nature as shall be desirable in satisfying his more varied wants and desires. Combining and molding materials about him, he produces new forms and conditions without end.

But before he can use effectually this high power he must be educated. He must obtain a knowledge of what there is in his vast inheritance.

He must know the peculiarities, the character-

* Says Sir Joshua Reynolds—

"He who has laid up no materials can produce no combinations.

"A student unacquainted with the attempts of former adventurers, is always apt to overrate his own abilities; to mistake the most trifling excursions for discoveries of moment, and every coast new to him, for a new-found country."

"Invention is one of the great marks of genius; but if we consult experience, we shall find that it is by being conversant with the inventions of others that we learn to invent; as by reading the thoughts of others we learn to think."

istics of each and every kind of material placed at his service.

This knowledge is not bestowed on him at birth, but he receives instead a capacity for acquiring the knowledge he needs, a capacity which is expanded in power by use.

As the arm of the smith grows strong by the exercise of its muscles; as the man who carried a calf daily is said to have carried at length the full grown ox; so the brain expands by exercise, and the powers of the mind are correspondingly increased. But on the other hand, by the same law a brain left in repose will lose its powers; it shrinks and dwindles, and like unused machinery, becomes corroded and useless.

The active mind, expanding by use, is powerful to work in proportion to the work already accomplished, and that power is diminished in proportion to the amount of indolence indulged. Hence the necessity for a constant activity, a constant gathering of the raw materials and submitting them to the process of mental digestion, evolving increased vigor from the new blood thereby produced.

Without this accumulation of facts, this storing of knowledge, man cannot work.

He may act, but his action alone is like power applied through even the very best of machinery, which, if expended upon nothing, nothing will result. Hence the necessity of exploring thoroughly and culling every useful fact, everything calculated to advance the object of our purpose.

Profiting alike by the failures and the successes of those gone before us (for all processes, as in the chemist's laboratory, be they successful or otherwise, prove something) we gradually increase our stock of knowledge and thereby our opportunities for work.

As one man improves upon his predecessors and thus improves upon himself, so one generation improving upon the preceding generations, thus improves upon itself, and a general advance or progress is the result.

If we, through pride of intellect, refuse to learn of the past, and with superficial views trust to our own conceptions, our ignorance as well as our folly will soon be manifest in the miserable abortions we throw upon the world. If we despise the lights of others we but grope in darkness, stumbling constantly over our own failures.

Experience, it is true, will help us. We are not likely to repeat our failures if we can help it, but life is too short to hope for success through a correction of our blunders; no progress may thus be hoped for, the result is not *work*, it is only unsatisfactory *toil*, *overtasking labor*, tending to despondency, if not to despair.

Man's power to work, we perceive then, is, other things being equal, in proportion to his accumulation of knowledge, and is therefore progressive; from which we infer that all real progress is the result of work.

Discoveries and inventions are considered the result of some happy accident or special inspiration. This may be so in some instances, but in general it will be found that they are the legitimate results of work.

It was not by the accident of an apple falling from a tree upon the head of Sir Isaac Newton, that he discovered the laws governing the solar system; but by hard work, close application, intense thought—sitting for hours half dressed upon the side of his bed, lost to all around him—progressing by slow degrees through discovery after discovery, attaining to a method of fluxions, the binomial theorem, the refraction of light, properties of color, and the refracting telescope; progressing step by step under his rapidly increasing powers, he at last seized the culminating thought and revealed to an admiring world the law of universal gravitation.

Newton was a man of undoubted natural capacity, but it was only through the most intense application and the severest discipline of mind that he attained such great results.

The exhilaration imparted to the mind by success in overcoming obstacles, is like oil to machinery; the faculties work more freely. Work is not then burdensome. But long continued action without success is disheartening and the work becomes toil.

Toil, or labor, is distinct from work. A vessel at sea strained by the storm beyond endurance is said to *labor*, while a properly constructed engine is said to *work*. The one labors while the other works. Labor is exhausting, distressing, destructive, while work is invigorating, exhilarating, healthful.

The work of man, then, is the result of an increasing human energy, acting successfully in and through a well proportioned brain upon an adequate

amount of knowledge gleaned from the nature and past history of the object sought to be promoted.

Hence we conclude that in order to succeed in any work, no amount of mere natural capacity will compensate for the want of close application.

No man can be an Architect without much work; commencing as a student, he must apply himself, after a proper scientific education, most intensely to the work of research, studying carefully the history of Architecture through all the long ages of its progress from the earliest times down. But where is he to find the books, and the models, and the teachers? While the cities of our country abound with institutions for the special training of students in theology, medicine and law, what have we at all adequate for Architecture? Had there been such an institution established only twenty-five years ago, what an advance in our present attainments, what progress would there not have been in the Architecture of our country now. True, there are schools of Technology lately started in which Architecture is taught as a branch. This is an improvement and quite acceptable in some respects, but they are not adequate to the great need of the profession. We must have an institution wholly and solely devoted to Architecture, where a thorough knowledge of the profession may be obtained by every student willing to work.

To establish an institute for Architecture will require time, and years might elapse before results adequate to the outlay could be obtained, yet all works of magnitude require time, and is not this a work of magnitude? No real progress can be made in Architecture until we *educate* our Architects, educate them *thoroughly*.

Men of wealth must and will take hold of this.

It is in their interest that such an institute would work. The money that they spend in building, or that their children spend, would not then be wasted upon structures which in the progress of the profession must give way to better ones. They then could erect structures, convenient, strong and beautiful, which would speak their praise to succeeding ages.

Feeling the want of such an institution more than any other class can possibly feel it, we are only too ready to combine our efforts for the founding of such an institution.

Let us then, each in his circle of influence, endeavor to enlist the sympathies of our patrons in this

our great work, cheered with the hope that a united effort, a patient, continuous effort, shall at no distant day crown our work with success.

Mr. WARE:—There was a point in one of the last sentences of the paper just read, in regard to the necessity of having Architectural schools, which should be distinctly and essentially Architectural, rather than the combination of instruction with that of other scientific branches, including chemistry, and so on, which deserves special consideration. As the Committee on Education say, the establishing of an Architectural school entirely by itself is a very difficult matter pecuniarily, because it requires a very large number of students to run such an institution. Its expense is very great; and as students must necessarily be scattered over the country, we can hardly hope to get up such an institution at present. Nevertheless, if it could be done, I think it would be the best, because, although it seems very promising to have Architecture taught in connection with Engineering and Chemistry, and so on, in point of fact the lessons in construction which the Architect needs, are taken up from a different point of view from that of the engineer or the chemist. The way in which these things are taught to professed miners, chemists, geologists, etc., is not the sort of teaching that the Architect can follow with the best advantage; although I suppose that for a long time to come a school for separate instruction is out of the question. It was the farthest thing possible from my intention to speak with the slightest disparagement of the necessity, not only of the scientific studies, so called, but of the practical and professional instruction which every Architect needs. All that I meant to say was, that the Architect needs to be instructed in these things from the artistic point of view.

Mr. HATFIELD:—Allow me to make an explanation of the remark that I made in regard to the necessity for having an institution devoted solely to Architecture. In the polytechnic institutions of the old country, in which students are taught not only Architecture but Engineering, the tendency is to that mathematical turn of mind, that, while it is necessary in a certain degree in the Architect, will not answer the purpose in thoroughly educating him for his profession. We find that the

students that come from several of the institutions that I have mentioned, the polytechnic institutions of Germany, for instance, are particularly mathematical, and there is very little of the æsthetic about them.

Mr. PETERSEN:—In regard to the polytechnic institutions of Germany, they are not principally intended for the use of Architects. In Prussia, however, there exists a School for Architects where Chemistry and Geology are taught, with the exclusive view of applying them to the purposes of the

Architect. That is entirely independent of the polytechnic schools.

Mr. R. G. HATFIELD:—I may say that at Berlin they have an institution with about two hundred students, at which I was very much interested with an account of their manner of teaching; also at Hanover, in Germany, and at Turin, in Italy. They have collections of models and appliances for the Architect that are perfectly splendid. If we could have anything like it in our country, and students would take hold and devote themselves to this, we might hope for great things.

The morning session then adjourned.

AFTERNOON SESSION.

On the re-assembling of the Convention, the Vice-President, Mr. HUNT, in the chair, the first matter taken up was the consideration of amendments to the By-Laws, proposed by Mr. G. B. POST, due notice of which had been given.

After much discussion, the following amendments were adopted:

In Article I, Section 1, the words *the candidate* were substituted for "his proposers," on line thirteen of the By-Laws as printed.

Article II., Section 3, was amended to read as follows:

A Diploma or Certificate shall be issued annually to each member of the Institute, which, in the case of Fellows and Associate Members, shall be a receipt for their annual dues. This Diploma shall bear the Seal of the Institute and the signatures of the President and Treasurer.

Article II., Section 1, was amended by substituting *ten* for "fifty," in the first line, thus making the initiation fee *ten dollars* instead of "fifty dollars."

In Article III., first line, and Article XII., Section 4, fourth line, the word *November* was substituted for "October."

The following resolutions, offered by Mr. POST, were adopted:

1. *Resolved*, That this meeting request the Trustees to provide for receiving ballots upon candidates for Fellowship and Honorary Members, enclosed in at least two envelopes, of which the innermost one will be *blank* and *sealed*, and of which the next one shall be endorsed with the name of the Fellow voting.

2. *Resolved*, That the Board of Trustees be requested to confer with the Boards of Trustees or Treasurers of the different Chapters in regard to the collection of the dues of the Institute, and to make such arrangements as will tend to the convenience of all parties.

3. *Resolved*, That the Board of Trustees be empowered to omit the collection of any instalments of the dues of members to the Institute, if, in their opinion, the first semi-annual instalment will meet the current expenses of the Institute.

The following resolution, offered by Mr. WIGHT, was adopted:

Resolved, That the Board of Trustees be directed to memorialize the Legislature of the State of New

York, to pass a bill transferring to the NEW YORK CHAPTER OF THE AMERICAN INSTITUTE OF ARCHITECTS all the powers under the "Law in relation to Unsafe Buildings," now delegated to the American Institute of Architects.

THE RESOLUTIONS IN RELATION TO DIPLOMAS, offered by the Board of Trustees, were adopted. These resolutions are appended to the "Report of the Board of Trustees," and marked "Appendix C." [See page 13.]

THE ELECTION OF OFFICERS AND STANDING COMMITTEES for the year 1869-70, was then held, with the following result:

PRESIDENT.

RICHARD UPJOHN.

TREASURER.

R. G. HATFIELD.

SECRETARY.

P. B. WIGHT.

SECRETARY FOR FOREIGN CORRESPONDENCE.

WM. R. WARE.

LIBRARIAN.

A. J. BLOOR.

BOARD OF TRUSTEES.

THE PRESIDENT, TREASURER, AND SECRETARY,

Ex-officio.

GEO. B. POST,

HENRY DUDLEY,

JAMES RENWICK,

JOHN DAVIS HATCH.

COMMITTEE ON EXAMINATIONS.

RICHARD UPJOHN,

R. G. HATFIELD,

JAMES RENWICK,

DETLEF LIENAU,

HENRY DUDLEY.

COMMITTEE ON EDUCATION.

E. T. LITTELL,

WM. R. WARE,

J. D. HATCH,

GEO. W. HEWITT,

J. C. CADY.

COMMITTEE ON LIBRARY AND PUBLICATIONS.

RICHARD M. HUNT,

E. T. LITTELL,

P. B. WIGHT,

H. W. HARTWELL,

A. J. BLOOR.

On motion of Mr. Post, the thanks of the Institute were tendered to the retiring Secretary, Mr. RUSSELL STURGIS, Jr., for the very efficient manner in which he had performed the duties of his office during the past year.

On motion of Mr. R. G. HATFIELD, the thanks of the Institute were tendered to the NEW YORK CHAPTER, for the use of their rooms during the holding of the Convention.

The afternoon session then adjourned.

WEDNESDAY, NOVEMBER 17TH.

EVENING SESSION.

CLOSING ADDRESS.

PROFESSIONAL GUILDS,

BY

E. L. GODKIN.

The Convention was called to order at half-past eight, P. M., by the Vice-President, Mr. HUNT.

The Vice-President introduced Mr. E. L. GODKIN, who delivered the Closing Address, as follows:

The special relation of Architects to the public, or the special needs or dangers, or capabilities of the profession, I do not intend to touch upon this evening, except incidentally. You are vastly more familiar with these things than I make any pretence of being. I should not attempt it, even if your President in his opening address had not fully and ably dealt with it. What I am about to say concerns Architects simply as members of one of the three or four callings known as professions, and requiring long and elaborate training for their proper exercise—training, too, of the efficiency of which the public is not always able to judge, owing mainly to the fact that the wares which the professions offer for sale are not palpable commodities so much as moral and mental qualities, such as learning and judgment, and probity and skill. The practical difference of most importance between them and other callings, however, lies mainly in the fact that the incompetency or dishonesty of those who pursue them works greater public mischief, owing to the confidential relation they occupy to-

wards the public, than can possibly be worked by the incompetency or dishonesty of men of other callings. With the trader or mechanic we deal at arm's length; we take nothing of him we cannot taste, touch, handle or scrutinize. From the lawyer, or doctor, or architect, or teacher, we buy what we have not seen and often can never understand. We place our lives, or fortunes, or comfort, or repose, in his hands to do with them as seems to him best, in full reliance, not simply on his desire to get or keep custom, but on his love of truth and justice, or beauty, and his sense of what is called professional honor. It is, therefore, a far greater evil that the sick should be attended by doctors who know nothing of disease, or who are capable of betraying the confidence reposed in them by their patients, or that lawyers should undertake cases without being versed in the law, or with the intention of using their knowledge for their clients' confusion, or that architects should beguile people into the construction of ugly or inconvenient buildings, or connive at fraud on the part of the mechanics who put them up, than that mechanics should make bad articles or dealers adulterate their wares. Man's confidence in man is more shaken by it, and whatever shakes man's confidence in man loosens the bonds of civil society.

Now should the value of professional services be ascertained, and the standard of professional honor be maintained and enforced, by any process but the ordinary one of individual competition for professional business? Has society anything to gain by the maintenance or revival, or creation of professional guilds or associations? Are there any reasons peculiar to the professions for believing that in them such combinations are more desirable than in commerce or the trades? Have they anything to recommend them in the eyes of the general public, to whose interests all combinations on the part of a particular industry are apparently opposed?

You are, doubtless, all familiar with the origin of the modern guilds—and by guilds I mean any association between members of the same calling, for the promotion of common interests and the cultivation of common feelings or tastes. They were by no means unknown in the Roman world; they have probably never been unknown in *any* world in which the family or tribe had ceased to be the political unit. There has probably never been a time or place in which man did not feel the loneliness of standing alone, even as a member of a civilized community, and in which he did not seek to link his fortunes to those of a greater or less number of his fellows by some stronger bond than mere community of origin, or language, or citizenship. Nay, there is little doubt that the Christian Church owed much of the rapidity of its early success to the opportunity it offered to the poor and miserable, to whom no other association of the day was open, of escaping from their isolation and entering into a brotherhood which was based on the principle that he who brought least with him was most welcome, and in which humility constituted the strongest claim to exaltation. We can hardly in our day, sheltered and sustained as we are by the thousand humanizing influences of modern life, realize what a vista of peace and sympathy the Church, as a human association or guild simply, opened up in the earlier centuries of the Christian era to that large body of persons to whom the ancient society offered nothing save a joyless and hopeless existence.

The guilds of the middle ages had no connection

with the Roman *Collegia* and did not even inherit their traditions. The mediæval guilds sprang up with the revival of industry, or one might say with the *re-formation* of civil society, because the landholders, as a class, were robbers, against whom the industrial class could only protect themselves by forming unions for mutual defence. The organizations once formed, of course they were naturally and inevitably used for other things than protection against high-handed violence. They became the means of cultivating social and even religious feeling among members of the same trades; of keeping up prices by preventing competition, and in these days, when we take some pains to disguise our dislike of competition, it is curious to read of the frankness and candor displayed by the European guilds in carrying out their determination to keep their business to themselves and make the public pay as much as possible for the work they did for it. The unblushing way in which they sometimes maintained their pretensions was illustrated somewhat comically in the case of the French guild of barbers, one of the most powerful of them all. The proper business of the barbers was shaving and bleeding—bleeding being the mediæval equivalent of the whole classes of modern remedies known as tonics and alteratives—and that it was a tolerably good business may be inferred from the fact, that a police ordinance had to be issued in Paris, restraining the barbers from throwing the blood into the street before their doors, not because it was an unsightly, but because it was an unhealthy practice, and the men of those days were not particular in the matter of sanitary precautions. Of course the barbers were unequal to more serious surgical operations, and never attempted them; but they nevertheless, when the surgical art began to rise in importance, were successful in having the surgeons treated as infringers of their monopoly, and compelled to pay a tax to the barbers' corporation every time they used the knife on a living body.

The records of the Parliament of Paris, too, are filled with reports of long suits between different corporations whose trades clashed, or seemed to clash. The tailors, and the old clothsmen, or clothes menders, for instance, were in litigation for years; the hosiers had a fierce fight with the *fripriers*, who collected old stockings, and touched them up, and

pressed them, and sold them for "as good as new;" but the longest battle of all raged between the poulterers and the restaurant keepers, the question being whether the restaurant keepers had a right to kill and pluck fowls, as well as to roast them. Volumes of legal arguments were expended on this point, and the arrêts, pronounced in the case by the parliament from year to year are amongst the most amusing passages, certainly in legal literature.

But all these guilds did confess their responsibility to the public on one point, and this a very important one,—they acknowledged, all of them, that they were under an obligation to see that their members understood their business, and that they did honest work. For the fulfilment of this obligation they resorted to a variety of precautions; they exacted from every applicant for admission, a "masterpiece," as it was called, in proof of what he could do, and guaranteed his competency to the general public; they provided machinery of surveillance, to prevent workmen cheating their customers, either in make or materials, or introducing fraudulent or injurious processes into the trade. They went even so far in some trades as to prohibit night work, and to compel every man to work at a window on a level with, and in full view from the street. If, after all, cheating occurred, the injured party could appeal to the corporation for redress. But, of course, in spite of all these precautions there was a great deal of cheating; of course the surveillance in process of time became a farce; and of course, through fear or favor, many incompetent workmen got admission to the trades, and many competent ones were kept out. In the course of ages every corporation became honeycombed with abuses, laid aside even the pretence of looking after the public interests, and used its machinery simply to keep down competition and keep up prices. Human institutions, no matter what their object, owe their value and efficiency to the character of the persons who work them, and there is perhaps nothing more trying to character than long and secure monopoly. The result was that when the French revolution broke out, one of its earliest consequences was the destruction of the trade guilds. There was hardly anything in the old regime which the mass of the people felt to be so oppressive. While the Constituent Assembly was still sitting, and before it had taken any steps

towards dealing with the subject, the corporations found themselves swept away by the mere rise of popular impatience and indignation. Everybody began buying where he pleased, and dealing in what he pleased, and the trade privileges, without any specific abrogation, vanished in thin air.

My main object, however, in saying so much about these trade guilds, is to call your attention to one distinction between them and the professional guilds or orders, a distinction which existed from the earliest times and which constantly appears; and it is this, that the main object of the professional corporation, that to which the pecuniary emoluments have always been treated as secondary, has been the skill, fidelity and uprightness of its members. That is, provided it made the lawyer or doctor learned, skillful and faithful, it has always treated his fees as a matter of a small moment. Indeed, until a comparatively late period, the advocate was left to get payment for his services as best he could, the law giving him no remedy, and his own profession even taking no formal notice of his right to them, beyond insisting that if he took anything whatever from his client, he should not take less than other members of the profession were in the habit of taking. Down to the close of the last century, and even later, the physician in Europe took his fee almost by stealth,—that is, he pretended to know nothing and care nothing about it, and it had to be left in his way, so that he could stumble on it, as it were, by accident. Now, in the trades guilds, the *first* object of the association was avowedly, and I admit excusably, for various reasons which I have no time to enumerate here, not the production of skillful and honest workmen, but well paid and comfortable workmen. The precautions as to the quality of the work, were taken mainly to reconcile the public to the monopoly. The distinction, you see, is a very important one, important both to society and to the corporations, and it is the pushing of the principle of the trades corporations to its extreme limits which led to their downfall, and which causes at the present day most of the hostility to their revival in the shape of trades unions; and it is the partial and growing adoption of it by the professions, in lieu of the nobler and better one of their earlier days, which has brought about the indifference with which the public watches

the gradual conversion of professional men into simple traders.

There have, however, been other causes than their own moral decline, for the prevailing hostility or indifference to trade or professional guilds. Partly owing to the influence of the French Revolution, and partly to the influence of colonial life during the last eighty years on the life and manners of the older countries, and partly to the increasing strength of the sentiment of respect for individual rights as defined by the individual will, the competency, as well as the right of the individual man both to find out his share of the world's work and to take care of himself while doing it, has grown to be, or is growing to be, the leading doctrine in the sociology of most modern States. Naturally enough, it has nowhere played so prominent a part as in America and England, but it is everywhere influencing both legislation and manners. It has brought the theory of free trade out of the half forgotten and little read pages of Turgot and Adam Smith and Bentham, and made it the common talk of the market-place. It has claimed for everybody the liberty of buying and selling what and where he pleases. It has seriously affected family life, the relations of parents and children, husbands and wives, brothers and sisters. It has pulverized all the trades, and left wages during the last half-century to be fixed by a frantic struggle between the workman as one individual and the master as another. And it has in nearly every country, and in this more than most others, broken down the barriers by which the professions were once surrounded, and lowered or abolished the qualifications of learning or experience once exacted for admission to them.

Within the last twenty years, however, there have been some symptoms of a reaction against it. One of them has appeared among the workmen, who are now everywhere re-forming the trade guilds and moving heaven and earth to make admission to them an essential condition of employment, but without exacting the proof of skill or offering the guarantees of honesty and competency which were offered by the mediæval guilds. Another symptom of this reaction is the prevailing tendency towards compulsory education, government supervision of railroads, steamboats, banks, insurance

companies, and women and children's labor in factories. In fact, the advocates of the *laissez faire* policy have of late made serious modifications in their doctrines. What they now say, is, *not*, that there should be as little interference on the part of government as possible, with the individual freedom of action, but that the individual should be allowed to do only those things which experience has shown he can do better of himself than with State aid, and two things may be said to be now fairly placed in this category beyond question or cavil, the choice of a religion and of a trade. On the other hand, they freely admit that whatever it would be good for the community to have done, and individuals cannot do well, or do at all, the government *ought* to do. I think, indeed, that there is little doubt that the reign of individualism in its extreme form is over.

It has not lasted long, but short as its reign has been, it has done some injury which it will not be easy, if it be possible, to repair, but which it is nevertheless, the duty not only of the public, but of those immediately concerned to try to repair, and there is a field in which this injury is more apparent than in the professions.

There are certain peculiarities in all professional labor, properly so called, which make it not only extremely difficult to fix its wages by the rule of competition in open market, but which make it difficult for the purchaser to judge of its quality. One is that the training it exacts takes an amount of time and money out of all proportion to the apparent result produced. The professional man has not only to be remunerated for the service he renders in the particular case, but for the unusual costliness both in the time and money of the process of qualifying himself to render it. The purchaser, however, not unnaturally does not take this process into his account. He sees nothing, perhaps, but the few words of advice spoken or written, and in nine cases out of ten these may seem to bear a preposterous relation to the fee demanded. The opinion, or advice may tell a man nothing he did not know before, but to make it worth asking for, to make it in any way superior to that of the first man he meets in the street, years of hard preliminary toil, or a heavy preliminary outlay in money have been necessary, of which the patient or client never thinks.

The consequence is that there is positively no kind of bills paid more reluctantly than those of professional men. Those of doctors are a source of proverbial irritation, and those of lawyers have made the connection of the profession with the devil, one of the oldest of modern traditions.

In the second place, the public must, of necessity, be an indifferent judge, in the greater number of cases, of the quality of professional labor. Its value, for instance, largely depends, as I have already said, on mental and moral qualities, with which nobody but a man's professional associates can be accurately acquainted. Besides this, it is, in a large number of cases, scientific in its nature,—that is, has to be measured by rules, and weighed by considerations of which most people can know but little. Of course the supreme test of all labor, must, as long as the world is what it is,—be the verdict pronounced by the public, after prolonged observation of its practical results. There will never be much use in telling people that a doctor who during a practice of twenty or thirty years has won and preserved the confidence of a large body of patients, is not a good doctor; or that a lawyer who has satisfied a generation or two of clients, is an untrustworthy practitioner, or that an architect who has studded a city or country side with evidences of his skill and genius, is a poor dependence. But every profession is composed in the main of comparatively unknown men, who have wrought no masterpiece, won no reputation, good, bad, or indifferent, but by whom nevertheless a large portion of the world's work, and its most delicate work too, has to be done, and who are constantly exposed to the temptation of taking dishonest short cuts to success. About these some guarantee is needed, and there is no guarantee nearly so effectual, as close association with professional brethren, and amenability to their opinion.

I do not mean to say that such a guarantee would, after all, be perfect. Far from it. Do what you will, you will have quacks and pretenders, and charlatans in all professions. You will have that peculiarly obnoxious kind of quack who is constantly occupied in popularizing things incapable of popularization, and constantly appealing from the trained judgment of his fellows to the untrained judgment of the multitude, or who

rates his work not by the weight, but by the number of the opinions given in its favor. You will have, too, what may be called the pushing quack, to whom the wages of his work will always be more important than the quality of the work itself, and who, as long as he fills his pockets, cares very little what impression he leaves on the minds of his clients, or what influence his course is exerting on the general interests of his calling; and you will have the laggard, who uses the general respectability and weight of his profession to cover his want of learning or progress, to excuse his indifference to or ignorance of the advances made by others in his special field, and the knowledge and use of which he owes to those who employ him, as much and as truly as he owes any knowledge whatever.

But, then, this is only tantamount to admitting that you cannot change human nature, and that all human machinery falls short of accomplishing the object for which it is created. The existence of crime and criminals is a standing reminder of the imperfection of courts and police, and we are all familiar with the use which has been made of the shortcomings of professing Christians as an argument against the social value of the Church. Nevertheless few people are prepared to see courts and police abolished, or admit that the Church does nothing for the promotion of order and morality.

The reaction against associations, and in favor of individualism, which followed the French Revolution, and of which I have already spoken, for a long time not only weakened the popular desire for them, but created a positive prejudice against them. The consequence has been, that restrictions on admission to professions, the wise as well as the foolish ones, have been either abolished, or have greatly fallen into disuse, and professional discipline has become a faint memory. This tendency to complete individual freedom, both here and elsewhere, has, I do not hesitate to say, been injurious both to health and morals. In the medical profession, quackery of the worst kind has greatly increased; so have the facilities for the perpetration of certain forms of crime, while with diminished popular confidence in medical science, has come greater popular confidence in nostrums and panaceas. The line which separates the pretender who brings back health and youth by six doses of his world re-

nowned "pain-killer," from the regular practitioner who does dirty jobs occasionally, and finds himself none the worse for it, has been rendered so faint by the facility with which medical degrees are obtained, that it takes a professional eye to detect it, and from the professional eye there too often comes no sign. Nevertheless, there are in some places—Massachusetts, for one—medical guilds, to which doctors are not admitted without passing an examination, and which guarantees the character of its members.

The decline in the mental and moral condition of the bar is for somewhat the same reasons notorious. The class of scientific lawyers within its ranks undoubtedly diminishes from year to year. It is not very long since I read in a leading journal that the judgments of the Supreme Court of the United States were no longer entitled to the respect they once enjoyed, because the bar of the country at large, from which they are taken, was no longer what it once was, either in character, or talent, or learning. Now this is undoubtedly the consequence of the theory which nearly every State in the Union has embodied, either in custom or legislation, that the law is a trade like any other, to be conducted under the rule of *caveat emptor*, and that the conditions of admission to it should be merely nominal. Yet it is to the learning and morality of the bar that we have, in a great measure, to depend for the efficiency and purity of the judiciary, and on the honesty and capacity of both we have to depend for all rational political progress; for strange as it may sound, it is none the less true, that progress, to be either safe or sound, has to run in the channel of legislative science, and that channel has had in every age to be kept clear by the labors of "that perpetual order of men," as Gibbon calls them, to whom we owe that great body of systematized and applied morality, the jurisprudence of the civilized world.

You are, in some respects, fortunate, gentlemen, in belonging to a profession which, though one of the oldest as regards the results of its labors, may, from a social and economical point of view, be considered a new one. It is only in our time that Architects can be said to have been brought into professional relations with the mass of the people, for it is only in our time that the people can be

said to have begun to build. You have been occupied from the dawn of civilization in the construction of temples, and palaces, cathedrals and castles; but it is only in our day that the distribution of property and the arrangements of society have been such as to call your services into requisition for the construction of homes. In fact the people are only beginning to learn the need of you, and you have it still in your power to adapt your professional usages to the wants of the time, without being hampered either by popular prejudices or old traditions. As one indication of the readiness of Architects, even in out of the way places, to perceive the novel conditions with which their work is now surrounded, I may mention that the last mails brought us an account of the formation of an Association of Architects at Caserta, in southern Italy, the principle of which is that anybody employing one member of it becomes entitled to the benefit of the skill and judgment of all—all questions of art being freely discussed and decided in common.

Your calling has, however, one peculiarity, which not only distinguishes it from all others, but enforces on you, in an especial degree, the duty of doing something more than contribute to the convenience of life, inasmuch as it is the only one which can be said to bring *art* into actual contact with busy life, to affect men's imagination while ministering to their material comfort. It will be your business to see that in the new regime on which the world is entering, not only that people are well lodged but that the educational influence of their lodgings shall be a real help to civilization. I do not need to descant to you on the influence of men's material surroundings during their earlier years on their character and career in after life; it is one of the commonplaces of social discussion; but I may call attention to the fact which, owing to the general and, indeed, laudable absorption of the public mind in the creation and perfection of the school system is constantly forgotten, that only a very small part of any child's education is got in the schools, and that every year this proportion, small as it is, is diminishing. The position children now hold in family life is such that it is what they see and hear, what they observe, in short, rather than what they are taught,

which does most for the formation of their character. To the education they get in this way, the professions contribute a great deal, and can contribute a great deal more. The eagerness of the race for money, and the constant use of the money test of success and value, are amongst the leading characteristics of our time, and we shall probably not see them pass away. But the work of keeping the community in mind, and above all of keeping the younger generation in mind, that there are things in the world better worth striving for than material comforts; that justice, and truth, and beauty, are to be admired, glorified and pursued; that there is a freedom which may be tasted in chains, and a wealth which may be enjoyed in poverty—is work which must always fall to the professions, and to yours as the one specially charged with the practical application of the noblest of the arts to human use, there will always fall no small proportion of it.

There is one other argument in favor of close professional association, and by no means the least,—I mean the necessity which is every year becoming more apparent,—of the concentration of opinion in aid of morality. There is probably no feature of modern society more marked than what I may call the disintegration of opinion, as one of the natural consequences of the growth of individualism. In proportion as a man ceases to care what other people are doing, he ceases to care what they are thinking, and the number of distractions which modern life affords, and the multiplicity of its claims on everybody's attention, has greatly weakened the force of opinion. In politics, for reasons which I need not here enumerate, opinion was never so powerful; the greatest have to bend before it; but in social and professional life it was never so weak, owing to its diffusion. One sees the effect of this in the indifference with which the perpetrators even of the gravest moral offences regard the exposure of them; they know it will make little or no impression on the public mind. It may be alleged on the best authority, and with abundance of proof, that *A* is a swindler; now the public has not ceased to detest swindling, but is so busy that it has no time to look into the question of *A*'s swindling; excuses itself by the reflection that there has probably been some mistake. It knows very little about *A*, in any case, and cares less, and will not give itself

the trouble of punishing him for matters it has not taken the trouble to examine. The result, too often, is that *A* comes to the conclusion that swindling is, after all, an occupation like another, which is only objectionable when unsuccessful, and continues it, and the rising generation very naturally learns to share his opinions, if not follow his example.

Then, also, the popular estimate of a man's professional qualifications may be a wholly mistaken and mischievous one, but his professional brethren, or the instructed public are too busy to correct it, or too much wanting in concert of feeling and opinion to correct it effectually. As regards the result of this state of things, I shall only say, and I say it without hesitation, that there is hardly a single instance in history of the decay of an art or science which is not traceable to the tendency of its professors to consult and pander to the uninstructed judgment, and their success in setting at naught the cultivated judgment of their fellows. What we need, therefore, in the present stage of mental and moral culture, is greater concentration of instructed opinion, and this is exactly what professional associations supply. There is no body so well qualified to fix a man's mental or moral standing as his professional brethren. At present it is apt to be fixed by the newspapers, and the newspapers sometimes make mistakes. The first and most useful work of professional associations therefore, is the cultivation of sensitiveness to professional estimates, as the very best guarantee the public can have, both for competency and fair dealing. If we had more of it, we should have fewer of that large, and I am afraid, growing class of charlatans, who repel all imputations by showing you their yearly or monthly receipts, and asking you how you can dare to find fault with a man with such a balance at his bank, to say nothing of his biography in various popular periodicals.

Last of all, let me say, gentlemen, that from the intimate association of men engaged in the same pursuits, having the same aims, and the same standards of propriety and duty, there flows what is perhaps the strongest of the social forces, and certainly when we consider how impalpable, subtle, and delicate a thing it is,—the most wonderful. I mean that loyalty of man to man, that proud concern of

each for the worth and repute of all, and of all for the worth and repute of each; that spirit of self-sacrifice in pursuits of common ends, and the achievement of common fame, which, I am sorry to say, for want of an English equivalent, we call *esprit de corps*. I know very well to what depths of infamy it has carried men, and for what crimes and horrors it has been responsible; but then it has contributed some of its brightest pages to the history of our race. There is no form of suffering it has not robbed of its terrors, and even made welcome. There has been hardly a single great enterprise which it has not done something to facilitate. It is perhaps the one elevating sentiment which men of every order and of every time, have felt and been moved by. It has drawn even from very common mortals a devotion which nothing but religious enthusiasm has sufficed to draw even from the highest. It has its root in one of the very best traits of human character,—the desire which nearly every one feels to bind himself to a definite portion of his fellow creatures by some stronger tie than their common humanity, and we shall, therefore, probably never see it die out. We all know the wondrous part it has played in Greek civilization—for Greek patriotism—the devotion of each man to the little community to which he belonged, was after all simply what we now call *esprit de corps*. The larger and nobler conception of the nature and functions of the state, which forms the groundwork of modern patriotism, was still undeveloped. We know too, what prodigies it wrought in the various religious orders of the Catholic Church—and how much men's devotion to their order had to do in keeping alive the flame of civilization itself in the worst days of the worst ages.

In military history the part it has played, might well be called one of the glories of the human race, for it has sent cheerfully to certain death, times without number, men on whom the higher influences of religion or duty had but little power. There is one chapter in that history, which I believe has not yet been written, but which I hope will be written some day, which is illumined by *esprit de corps* from first to last, and unhappily there is nothing else to illumine it:—I mean the story of the Swiss mercenaries. These poor mountaineers for four centuries sent the flower of their youth to serve for pay under foreign flags. They were present

during the whole of that period, on nearly all the battle-fields of the great continental wars. They had neither religion, nor patriotism, to sustain them; but devotion to the regiment—that is the devotion of each man to the friends and neighbors at his side, took the place of them all, and made a hero of him. Take up the account of any battle you please, in which the Swiss served during that period, from Morgarten, where they defended their own homes, down to the famous Tenth of August, in Paris, when they fought, and fought alone for a dying cause, and you will find that no matter who fled they stood firm, and that the most furious victor found his onset stayed and broken on their pikes.

Talking the other day to a distinguished officer of our army, who had seen much hard regimental service during the rebellion, I asked him what he thought had had most influence in keeping volunteer regiments up to their work in desperate emergencies, such as storming fortified posts,—if it was the habit of obedience? “No,” he said, “they never acquired the *habit* of obedience as it is seen in European armies.” If it was love of the cause? “No,” he said, “that had only a general influence, keeping a man in the ranks, for instance, but was only present to very few men's minds in extraordinary danger.” If it was confidence in the officers? “No,” he said, “not that, either; it was,” he thought, “a dislike to go back on the boys”; in other words, the loyalty of each man to the comrades with whom he marched, and slept and fought.

Now I doubt very much whether the world has reached such a pitch of moral and intellectual culture that we can afford to throw aside as antiquated and useless, such helps to right living as this is, or certainly might be made. I believe that as far as we have yet gone, the best and most thoughtful men are not wholly satisfied with the effects on human character and human progress, of the plan so much in vogue at present, of treating everybody as nobody's concern but his own, and relying simply on appeals to his individual conscience for any good we expect to get out of him; of teaching everybody that he is the supreme and sole judge of his own interests, and that if he is himself satisfied with his manner of taking care of them, he can afford to disregard the opinions of others. It seems very

plain that we have not yet reached the stage in which virtue will be able to dispense with props or crutches, and in which each of us will best serve all others by being a law unto himself, and in which human nature can be attuned to sweetness and harmony while leaving some of the most powerful chords of the human heart untouched.

At the same time we must beware of expecting too much from any aids or devices whatever. I know very well, and I do not need to tell you, how slow the progress of the world is sure to be, both morally and intellectually, whatever it may be materially, no matter what machinery we use to hasten it, and the best way of guarding against languor and discouragement, is to bear this constantly in mind. We have only to look back, in order to be sensible of the danger of being too sanguine, and

yet it is only by looking back that one gets courage for looking forward and advancing. As the poet has well said :

“O'er groveling generations past
Upstood the Doric fane at last,
And countless hearts, on countless years,
Had wasted thoughts, and hopes and fears,
Rude laughter and unmeaning tears ;
Ere England Shakspeare saw, or Rome
The pure perfection of her dome,
Others, I doubt not, if not we,
The issue of our toils shall see.”

Upon the conclusion of Mr. Godkin's address, remarks were made by Mr. Sturgis, the Chairman and Mr. Wight. The President, Mr. Upjohn, gave a few words of parting advice, appropriate to the occasion ; after which the Convention adjourned *sine die*.

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TECHNICAL PROPORTION,

A PAPER READ

AT THE

FOURTH ANNUAL CONVENTION



OF THE

AMERICAN INSTITUTE OF ARCHITECTS,

Held in Philadelphia, November 8th and 9th, 1870.

BY D. T. ATWOOD, F. A. I. A.

PUBLISHED BY THE COMMITTEE ON LIBRARY AND PUBLICATIONS OF THE
AMERICAN INSTITUTE OF ARCHITECTS,

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1871.

Price, Thirty Cents.

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BY

D. T. ATWOOD, F. A. I. A.

Good and bad taste are terms frequently used to express appreciation or disapproval of a building, or some of its details. If the connoisseur receives satisfaction in the contemplation of a work of art, it is generally because the whole composition gives evidence of fitness, or the employment of means to an end, and what he is constrained by education and the concurrent testimony of experience and example to admit and applaud, receives, for the same reason, scarcely less emphatic sanction from the general observer, and the world at large; the only difference being, that the expression to one is instantaneous, like the impression of nature upon a camera, while with the other, certain directions, correctly taken, are known to produce only certain results.

In view of the light which experience and precedent afford, there seems no reason why we may not accept as true the general proposition that *proportion* is *fitness* coupled with *form*.

Mr. Allison, in his admirable Essay on Taste, which is philosophical rather than practical, thus

discourses of proportion. He states that fitness and proportion constitute relative beauty, and the principles which have been established please us, not from any original law of our nature, but as expressive of fitness. The beauty of the external appearance of members arises from their apparent fitness for the habitation of man, and consists in stability and sufficiency for the support of the roof. "From the discovery of fitness or utility we infer the existence of design. In forms distinguished by such qualities, the discovery of an end suggests intention or design, and the qualities of form which signify this fitness or usefulness are signs of the design or thought which produce them."

A wall, designed with reference to the weight it will have to carry, or the lateral pressure it will be obliged to resist, would, so far as constructive proportions are concerned, be a wall that we should accept as fitting, while if it lacked any of the conditions of strength or stability, it would be at once condemned as unfit. But for Architectural purposes we would go a step further, and criticise the form

or proportion of length and height, and the general fitness of exterior form and magnitude; our considerations being based upon the intended use or purpose of such wall, we would have still further to consider, secondarily, the number and form, also the size of the necessary openings or divisions, and, lastly, what degree of decoration and ornament would sustain the character of a well devised and proportioned whole. From these and other considerations, and from the reflection that we are guided by the experience of ourselves and others, and that our sentiments respecting proportions are influenced by the nature of buildings, and the materials that compose them, we are led to conclude that true proportion has three elements or general characteristics, which, duly considered, give character and symmetry to the whole fabric.

The first of these is construction, and relates to strength and solidity.

The second is form. Primary form, relating to the general outline of plan and elevation, and Secondary form, relating to the formal divisions or openings within the outline or elevation.

The third is decoration, or ornament, and relates to whatever will consistently produce, with beauty of form, pleasing emotions; and properly treats of cornices, entablatures, door and window architraves, columns, carved surfaces, and lines of various combinations, curved, straight and angular.

There is considerable difference among Architects in their practice of proportions, although agreeing as to the fundamental principles; the individual practice of modern or contemporary Architects is little known to each other, and in a much less measure than circumstances warrant. I know the interpretation of any line of theoretical proportion must, in a large degree, conform to the constitutional ability of the individual mind and heart of him who seeks to unite the three conditions I have named in the full expression of strength, symmetry or beauty of form, and appropriate ornament.

Some depend entirely upon what one precedent or model furnishes, and ignore that extensive acquaintance with the works of those that have excelled, which surely leads to greater powers of invention and more original conceptions; and some regard the practice of proportions as a mysterious process born only with the gifts of exalted genius and intuitive perceptions. While I believe a certain

amount of natural tact or fitness should inhere for the successful practice of any art or profession, it is not without careful study and a toilsome culture that any may hope to become truly versed in that higher law of æthetics which rules in all art. I cannot fully agree with the sentiments of a popular author, who regards proportion "as infinite as possible airs in music, and that to attempt to teach a young Architect how to proportion truly and well by calculating for him the proportions of fine work, would be as rational as it would be to teach him to compose melodies by calculating the mathematical relations of the notes of Beethoven's *Adelaide* or Mozart's *Requiem*."* I know that the man who has eye and intellect will invent beautiful proportions, but not without due preparation and study of nature.

To produce anything good, it is necessary to become acquainted with what has already been done by our predecessors. Says Sir Joshua Reynolds: † "The greatest natural genius cannot subsist on its own stock; and further, the greatest part of every man's life must be employed in collecting materials for the exercise of genius; invention, strictly speaking, is little more than a new combination of ideas or images that have been previously gathered and deposited in the memory."

I conceive it would be consistent and admissible to reduce the conditions of proportion, which we have named, to some technical system that, for uniform Architecture, would be satisfactory in its application; give more real harmony, at least, to ordinary buildings, and in some respects be an improvement to the best; relieve many of perplexing expedients and errors, leaving those special cases of higher art to which no rules could well apply, entirely to the operations of the intellect and such aids as experience furnish. As the subject I have chosen relates to Technical Proportion, I will, by way of illustration, state here what has been for some time my individual practice in small works, and in minor points of city and suburban Architecture, not without the hope of finding myself in some respects in sympathy with the judgment of the Institute, and trusting to future discussions to regulate any erroneous views. Passing over the formulæ with which all are acquainted for the constructive portions of

* *Lamp of Beauty*, xxv. Sec.

† Sir Joshua Reynolds' *Discourse*, II. and VI.

the edifice, the next important point for consideration is the plan or outline of the building; otherwise, the form, and much of the expression and good effect of a building are due to a well-proportioned plan, and when not restricted by size of lot, as would be the case in a city lot, it is best to determine the general form by arithmetical ratios representing the cube and square, cube and one-half, and double cube. A convenient distance one way, say the length, being determined, then the breadth and height may be proportioned thereto by ratios. The operation would be somewhat as follows: Decide upon a convenient length, represented by the number, 4, as a ratio. Let the number, 3, represent the width, and the number, 2, the height of the dwelling. Supposing 40 feet to be the length decided upon, then the width would be determined as follows:

4: 40 :: 3: 30 feet, the width.

And the height as follows:

3: 30 :: 2: 20 feet, the height.

Then the length of the dwelling would be 40 feet, width 30 feet, and height 20 feet.

The ratios 2, 3, and 4, correspond with the cube, cube and one-half, and double cube. The size of rooms may be determined in the same manner, and projections varied to suit any style, by choosing other ratios, from 1 to 7.

Stories may be divided into 12 diameters or parts. One diameter subdivided into 50 minutes or parts, gives the unit of measure for interior details, members, moulds or parts.

All stories should diminish, one over the other, in the ratio of 1" and 2" in the elevation, above the basement.

To obtain the height of entrance doors, we may cut off 2 diameters from the top of the story, leaving 10 diameters for the door.

For interior doors, cut off 3 diameters from the top, leaving 9 diameters for the door.

For windows, cut off 2 diameters at the bottom and top of the story, leaving 8 diameters for the length of the window.

To obtain the whole height or width of base, divide the story into 12 diameters, and one diameter into 50 parts, or minutes. Take 30 minutes for the base; for the base mould, allow $\frac{1}{3}$, and for the plinth $\frac{2}{3}$ of the whole width.

To obtain a proper architrave or casing for doors or windows, divide the height of the opening into 12 diameters, and take 45 minutes of 1 diameter for the whole width of architrave. Subdivide the architrave as designated by the standard order, using the same facia and moulds, or other fitting members in their stead.

For stucco, or other cornices for rooms, give 1 diameter of the height of the story for the whole depth of the cornice. Make the projection equal to the depth. Divide the depth into 150 parts. Find the unit of measure, and separate into 3 divisions corresponding with the 3 principal divisions of the cornice, in the standard order. Ornament each division with moulds or otherwise, to harmonize with the style of the dwelling.

For pilasters, antæ or columns, divide any given height into 12 diameters, give 1 of 12 diameters for the face of the pilaster, or the diameter of a pillar or column.

For the diameters of posts, single or clustered, for verandahs, piazzas or porches, give 45 minutes of one of the 12 diameters.

To obtain an entablature for any height, divide the given height into 12 diameters; take 3 diameters for the entablature, and subdivide according to the standard order into cornice, freize and architrave, with their appropriate members. For units of measure, 1 diameter must be divided into 50 minutes.

If it is desired to employ a cornice only, divide the entablature into 150 parts, and take 70 parts for the cornice; make the projection equal to the height.

To obtain the proper projection for eave and raking cornices on country houses, divide the height from the bottom of the water table to the second story window sills into 12 diameters; divide for units of measure 1 diameter into 50 minutes, and give the proper proportions for a one story cornice, without freize or architrave at this point, viz: 70 parts or minutes. Now enlarge this size in accordance with the optic rule for superimposed members, above a first story. Reduce the parts so obtained to feet and inches, which would be the horizontal projection at the eaves of the house. Determine the pitch line of the roof, and make the gable end projection equal to the inclined projection at the eaves.

To determine the proportions of any moulds required to ornament the projection, increase the unit of measure, as many times as there are parts designated in the order for the moulding selected.

If cornices are to be bracketed, and have level soffits, let the projection be equal to the height. When a dwelling is to be trimmed with a plain, raking projection, as in the case of a Gothic cottage, with verge boards, or any similar style, determine the projection according to rule, and adjust the height at will.

If we attempt to systematize, we must treat every story of a building as a separate order of Architecture, and every opening in like manner, and all stories above the first may be decorated from this by the optic rule, and by the aid of mean proportions taken from approved precedents, if such will not admit of a literal application. This is our plan, and in furtherance of it, we have selected from parts of two conceded elegant remains of antiquity, the Corinthian example chosen from the three famed columns in the *Campo Vaccino*, at Rome, supposed to be the remains of the temple of Jupiter Stator; and the Roman Order from one of those exquisite remains of antiquity, the Arch of Titus, at Rome. Having selected and examined these as aids, and found them inapplicable as a whole to our modern requirements, may we not give prominence to the fact, that out of different architectural requirements arises the necessity for change? And this, coupled with acceptance and associated customs, inspires a governing principle admitting of practice by the rules of cultured taste and experience, or may be reduced to a working system by the principle which declares equal members to be out of proportion; and that to constitute proportion there must be a principal and members; or as Ruskin happily remarks, "a large thing and several smaller ones."

In external decoration, the practice is common, among modern architects, of applying the most suitable proportions of the "orders" while superfluous members are rejected or thrown out of the composition or design, and smaller ones enlarged, as taste and experience direct, somewhat after the manner of the Mediæval Architects. Now what we propose is quite similar, only we will, by the aid of accepted models, systematize our convictions of taste and experience, reducing them to a

working standard, whose operations, though consistently limited, are clearly defined. We are thus led to devise a standard of measure corresponding to an order of architecture, and hence a standard proportional order. The initiatory step is taken by comparing the two examples, Jupiter Stator and the Arch of Titus, at Rome, together.

We take the aggregate of parts or proportions in both the height and projection of a like member from each order; obtain the mean proportion and repeat the process until all the members of the respective examples have been compared and the mean proportion obtained, after which it will appear what measures thus obtained may be used, and how many rejected.

TABLE OF
COMPARATIVE PROPORTIONS.

JUPITOR STATOR. Corinthian Example.	ARCH OF TITUS. Roman Example.	MEAN PROPORTIONS Applied to an opening 10 high.
MOULDINGS. PARTS	MOULDINGS. PARTS	PARTS. <small>Parts of the Standard Proportional.</small>
Sqr. of Cyma. 2½	Sqr. of Cyma. 5	3½ — 5
Cymatium 9	Cymatium 7	8 — 9
Fillet 1½	Fillet 1½	1½ — 3
Rom. Ovolo. 3½	Rom. Ovolo. 2½	3½ — 4 C.R.V.
Fillet	Fillet	½ — 0
Facia. 12¾	Facia. 7½	9½ — 10
Cyma. Rv. 2½	Cyma. Rv. 2¾	2½ — 4
Modillion. 11¼	Modillion. 12	11½ — 15
Cyma. Rv. 5½	Cyma. Rv. 6½	5½ — 5
Torus. 1½	Torus. 1¾	1½ — 0
Dentil. 13½	Dentil. 7¾	10¾ — 10
" Bed. 2	" Bed. 2	2 — 1
Quarter Round. 4½	Cyma. Rv. 5	4½ — 4
Torus. 1½	Torus.	1½ — 0
Frieze 43¾	Frieze 44½	44½ — 35
Drip Cap. 1½	Drip Cap. 3½	2½ — 5
Cyma. Rv. 4¾	Cyma. Rv. 5¾	6½ — 10
Torus. 1¼	Torus. 2½	1½ — 2½
3d Facia. 13½	3d Facia. 10½	11½ — 12½
Cyma. Rv. 2¼	Cyma. Rv. 3¾	2 — 5
2d Facia. 10½	2d Facia. 9	about 10 — 10
Torus. 1¼	Torus. 1¾	1½ — 0
1st Facia. 8½	1st Facia. 7½	7½ — 0
Echinus. 3¾	Echinus. 2¾	3 — 5
Fillet. 2¾	Fillet. 1¼	1 — 2½
Cavetto. 5½	Cavetto. 6	5½ — 6½
Cap'l of Col'n. . 60¾	Cap'l of Col'n. . 74¼	67½ — 60

1 Part — ½ of inch.

But after repeated experiments we find so few of the mean proportionals suited to our purpose that we deem it most expedient to select, without reference to what has been done, such proportions from one of the examples, and then from the other, as will admit a general and practical application until an entablature and order is formed.

But here we are to consider the expediency and practicability of what has been proposed, for in-

terior treatment—for whatever mode or style is adequate to the exterior, should on the ground of unity, be in a certain degree applicable to the interior—and thus we are compelled to adopt a system equally facile for the exterior or interior, and applicable to one, two and four stories, to the suburban cottage, or town house.

For reasons above stated we can not adopt the entire entablature of either of the selected examples, and for reasons as good we are not permitted to employ the same diameters as units of measure for the openings in a majority of cases, though we may, where greater boldness is required for the column, use 10 diameters.

And when a still greater degree of boldness is sought, use 9 diameters, as in the ancient practice. But even this accommodation will not suffice. For general purposes, such a number of diameters should be employed as will readily resolve heights into feet and inches, and conduce to practical facility. We have therefore adopted 12 diameters as the essential rule, for the division of heights. And having chosen the number of diameters for any height, we next direct

our attention to the division of a diameter into the requisite number of parts or minutes.

The ancients commonly divided a diameter into 60 parts or minutes; and in the examples before us, 10 diameters are used, each divided into 60

parts. But, having increased this standard to 12 diameters, it is evident, that if we wish to preserve the same ratio in the new that exists in the old order, we must diminish the number of its parts or minutes, in the ratio of the increase of its diameters. And as there are no requirements of the new method to interfere, we adopt this expedient; and hence have as units of

measure for one of our 12 diameters, 50 parts or minutes.

D. D. M. M.

Formula: 12: 10 :: 60: 50

Having now hypothetically laid down 12 diameters as a standard measure for heights, and 50 minutes for the regulation of its members, suppose we take a window opening 10 feet high upon which to demonstrate the practicability of the new proportional order.*

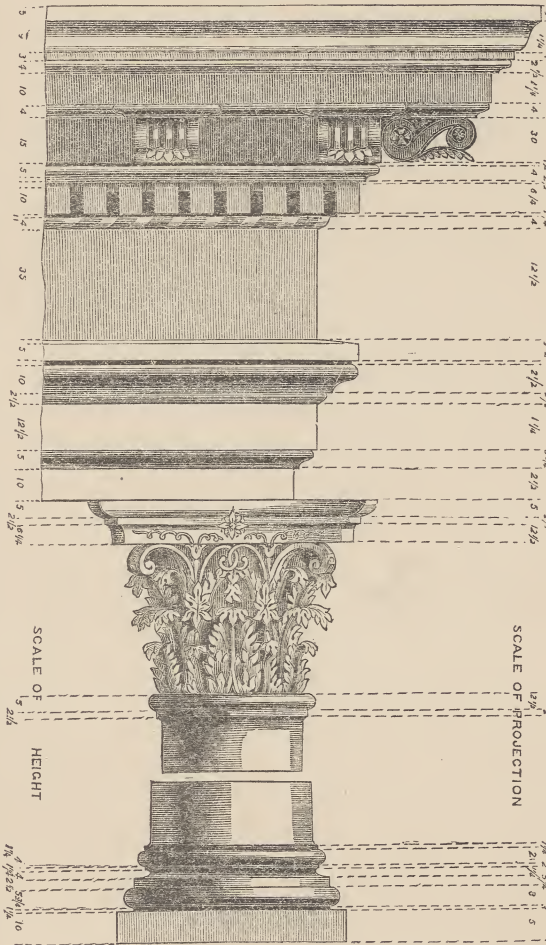
We may assume it to be a window, opening on our first story, whose top is 20 feet above the ground plane or side-walk, which we divide into 12 diameters.

One diameter, equaling 10 inches, is divided into 50 parts, which we term our units of measure for all members and mouldings in height or projection, upon the window opening. The ratio is 5 to 1; and one part or minute 1-50 equals 1-5

of an inch; the single unit of measure for mouldings. And taking 1 diameter as a unit of mea-

*The height 10 feet is selected both because it is a very good medium, and is the length of the first story window of our exemplar and standard.

PLATE I.



sure for the height, we give 3 diameters to the entablature which equals 30 inches, including cornice, frieze, and architrave. To the cornice we have allotted 70 parts, to the frieze 35 parts, and to the architrave 45 parts; making a total of 150 parts contained in the entablature. These parts are classed in the proportional order into 18 members and mouldings.

To the capital of the order we have given 60 parts (12") in height; to shaft, base 30 part (6.")

For the size of the shaft at the base we give 1 diameter, and $4\frac{1}{2}$ parts for the neck or top.

These are the general proportions of an order we would recommend for uniform Architecture in the Renaissance, Italian or Classic styles.

I will show briefly how we may apply its proportions to one story of a city stone or marble front, and by an analagous principle to three or four stories. We will choose a first story of 15 feet high, and a basement of 9 feet. These we will divide into 12 diameters,* and by cutting off 2 diameters at the top of each story, we find the topmost line of the window and entrance-door openings, or head jamb. And by cutting off 2 diameters at the bottom of each story, from the floor up, we have the lowest line of the bottom of the window openings or tops of the stone sills, when finished.†

*Because it harmonizes the exterior with the interior and is more practicable. It gives more ease and elegance.

† We cut off 2 diameters because the practice harmonizes with the mean average of the best masters.

This method gives a length of 10 feet in the first story for the window opening, which is divided into 12 diameters. Referring at this point to Plate I, the Proportional Order, under its instruction, we lay off above the head of the openings, 3 diameters of 10 inches, equalling 30 inches, for the entablature. This we separate into 3 divisions for cornice, frieze and architrave; giving to each the respective number of parts required by the order. Dividing one diameter into 50 parts as units of measure, we

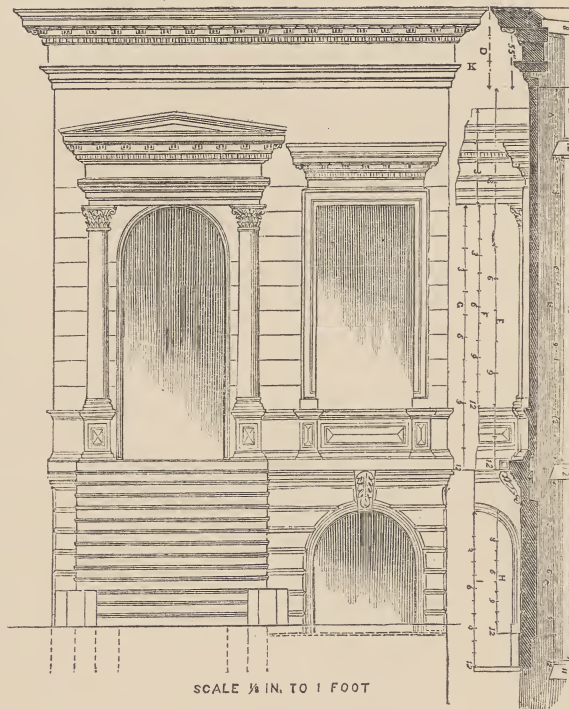
have the three unornamented divisions of the entablature.

We next proceed to give each division its quota of ornament, or members, as laid down by the order; using one *part*, equal to 1-5 of one inch—as a unit of measure, increased as many times for the proportion of each member as there are units or parts designated in the order, and thus form the entire entablature. We trim or ornament the sides of the window opening with the architrave given us by the entablature. The architrave may rest upon plain square bases; these supported by paneled pedestals with caps and bases, while the intermediate space under the sill of the win-

dow may be paneled.

We do not wish to be understood here as recognizing this to be the only method of decoration under the system; because it is true, there may be as many forms of treatment, with different mouldings, as a sound judgment and fine taste may dictate. For example, instead of side architraves for the apparent and positive support of the entab-

PLATE II.



Elevation. 1st Story.

lature, we may use shafts or columns, against pilasters supporting an arch within the space, and springing under the architrave. Or, resuming the side architraves, we may use, in connection with them, detached shafts or columns, supporting, as before, an arch within the opening, and springing under the architrave.* Again, we may use antæ richly and deeply paneled, with well carved trusses supporting the cornice of the entablature, reserving modillions between, and paneling the architrave and frieze spaces enclosed between the trusses.

In the basement story, we obtain by this method a window opening six feet high, dividing which into twelve diameters, and one diameter into fifty parts—as with the first-story window, we obtain one part or unit of measure, which equals 12-100 inches. And by increasing this as many times as there are proportional units in the architrave of the order, we have 5 40-100 inches, or $5\frac{1}{2}$ inches nearly, for the size of the architrave, which should trim a circular-headed or any other form of basement window opening, in this or any similar case, whether used with or without cornice. It will be observed we do not think a basement window can be legitimately treated with architrave and cornice projecting from the face of the wall. We reject projecting cornice and architrave altogether; and divide the width, 5 40-100, obtained for an architrave, into three members, a *cyma reversa*, a channel, and an arris or edge. All may be cut boldly in accordance with good taste, and set inside the face of the ashlar, and, trimming the opening on all sides, die at the top on opposite sides of a heavy and richly wrought key-stone.

This treatment we consider the most legitimate in connection with wrought ashlar, whose courses are definitely separated by bold channels and chamfers. While the aggregate of the architrave is always in exact proportion to the opening, it is right that we leave it discretionary with those who will, to give greater boldness to a receding than to a projecting architrave, since the former in its office would convey the idea of apparent support, while the latter would be governed entirely by the rules of the order.

Now of the Portico. We have said the line which defines the top of the window, gives also, the top of the entrance or street door,

under the portico. And the same line denotes the height of its entablature above the water-table line. The height we get here, would be thirteen feet divided into twelve diameters as heretofore, and one diameter (thirteen inches) into fifty parts or minutes; thus procuring for one part 26-100 inches. Having now ascertained from the height our units of measure we proceed in the same manner as with that of the window, with the exception that we place a pediment over the portico to heighten its character and central position; and this we provide for by merely raising the corona exactly over the center of the portico to a height of one-eighth of its span.

The mouldings at the eaves or opposite sides retain their original height at their extreme points of projection, thus forming a pediment. We may set pedestals upon the stoop platform, upon which come the shafts or columns that support the entablature. The size of the columns are determined by our proportional order, as that was determined. The base of the column is one diameter—fifty parts—through; while at its neck or top it is forty-two and a half parts through; diminishing one and a half inches in its length. The capitals, with neck and abacus mouldings, are in all respects like those of the order, having its projections. And the base-moulding of the columns have likewise the proportions of the order, increased in proportion to the additional height.

Now of the Roof Entablature, or Point of Starting. In the second-story there would be laid or spaced up, two diameters from the floor for the location of moulded or other window sills of a second-story, of thirteen or other number of feet in height. We assume it to be the proper height also at which the lowest line of our roof entablature should be placed. For as the window-sills in the second-story would at this point separate the plane from the broken mass, we may accept it as legitimate ground for any treatment which the state and style of our work demand.

Nor would any other rule justify starting it either below or above that line. Hence to obtain a proper roof entablature under the order, for one story of any building, we divide the whole height from the water-table line into twelve diameters. Then taking one diameter—eighteen inches—as a unit of meas-

* This treatment is productive of richness and beauty, and serves to cover an excess of dead wall.

ure for the whole height of the entablature, we lay up three diameters—four feet, six inches.

This height we separate into three divisions for cornice, frieze and architrave, giving each the number of parts designated by the order. Next, with one *part*—36-100 inches—for a unit of measure for all members and mouldings, we proceed to give each of the three divisions its respective *quota* of mouldings under the order; in the same manner as described for the window entablature of the first story.

This method, though in accordance with the order and with the more accepted instances of sound architecture, may be made to conform to the circumstances of any case, or to the requirements of economy. Differences of taste and style may be accommodated, retaining, however, in each instance the proportions of mouldings and the aggregate proportions of the entablatures.

In reference to the treatment of stories above a first, as the second, third, fourth or fifth, I design to show by this method how the first story is related to others as a proportional standard, in connection with a natural principle, involved in the following proposition, viz.: All superimposition, first of the principle in an individual, and second

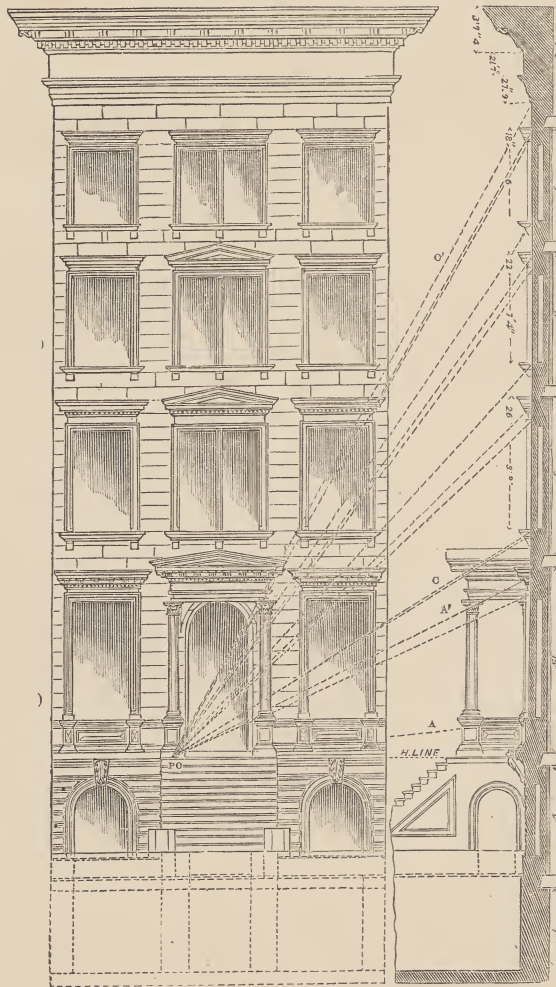
of the members in a collective capacity, should be determinately and proportionably diminished in size and weight.

By superimposition, in an Architectural sense, we

mean the elevation of story upon story. By principle, we mean, in the same sense, the body or whole thing alone; as the unadorned walls of a building, raised to their proper height and answering the requirements of construction, but otherwise imperfect, having no roof cornices or external decoration. It is a ground for ornament; as a window or door opening, which may be regarded as such principal to be furnished with such comely members in rank and magnitude as may be suggested, or demanded by their own form and size. By members in a collective capacity, we mean the aggregate or sum of the mouldings and members of an entablature of a superimposed window, as compared in size and weight with the entablature of the window below it.

We notice this principle is almost wholly disregarded in the use of architrave and pilasters on superimposed stories of buildings in city Architecture, more frequently than elsewhere. We notice no diminution in the width of those members on

PLATE III.



Elevation of Four Stories.

account of their elevation above the first story; but all are of the same width, whether used on the ground, or on the fourth stories; on a short or a long opening. This practice is manifestly wrong where anything like relative proportion is to be observed throughout the building. Nor is it right to disregard the principle of superimposition in this instance, or in the decoration of surfaces, when it is observed in all construction. Here, there should be harmony at least, where now there is little, and that accidental. The laws of construction compel its observance in the former instance, and for the sake of harmony and consistency it should be observed in members used for decoration.

Upper stories we divide like the first, in twelve diameters, leaving eight diameters for the height of the window openings and four diameters for the space above and below the openings. The length which these diameters give us for each window opening of the second, third and fourth stories, is treated in the same manner as that of the first story, already explained, until we come to the external decorations of the openings, then we employ another method.

For illustration we will go through one series of explanations which will suffice for all the stories. Supposing the second story is thirteen feet, one diameter would equal thirteen inches, which increased eight times gives eight feet eight inches for the length of the window opening. This divided into twelve diameters gives eight and 66-100 inches for one diameter of the height of the opening.

Proceeding as in the first story [Plate II.], we lay up three diameters for the window entablature, which equals two feet two inches. Then resolving one diameter into fifty parts or minutes, we get for one foot or unit of measure, .1732 inches. Referring to our proportional order we take the number of parts there designated for architrave, and base or sill in the aggregate. For the base thirty parts, and for the architrave forty-five parts—and multiply them by the unit of measure, one part, or, .1732 inches, we obtain 5.19 or $5\frac{1}{4}$ inches nearly, as an aggregate depth of base for window sill; and 7.89 inches for the aggregate width of architrave.* These sizes

* It will be seen in support of what was urged before, that this method gives an architrave of nearly eight inches naturally enough, and in proportion to its principal; while the architrave of the first story is nine inches—the exact fraction of size figured in the section.

we lay off around the opening. From this point we do not proceed as in the first story, because we conceive that all mouldings for ornament elevated above a standard, as the first story, and viewed from an ordinary point of sight, should retain as they are elevated, all the apparent size and boldness of their prototypes separate or together; and we take the first story dressings as such prototypes.

Again, we think mouldings and members for ornament should be less in number and bolder according to the elevation, when not detrimental to construction or utility, and the recognized harmony of parts.

Should we proceed from this point as in the first story, it is evident all superimpositions of members would continually diminish, and present at the height of two stories a series of lines rather than a series of well-defined contours of members. If obedient to the requirements of design, not only unmeaning forms, but gradated and contrasted curvatures, must give way, when required, to those of definite character and fitness. Therefore, we are instructed that according to the elevation of the superimposed part, the members for ornament above a standard and point of sight should be less in number and bolder.

Accordingly we fix a point of sight at a natural distance of view from the building, say thirty or sixty feet, on a line with the water-table. From this point we draw imaginary visual rays directed toward the centre of each group of mouldings in the standard or first story; and toward the centre of those spaces on the walls of the building around the superimposed openings that are to receive decoration. Now, it is evident that as the visual rays of the first story are to those of the superimposed stories, so will the mouldings and members of the first story be to those of the second, third, fourth, &c., considered individually.

Hence, beginning with the sill, we look for the sill of the first story window, and find its first top-most member to be $1\frac{1}{4}$ inches deep, up and down its face. And to find the proper size of a like member for the sill of the second story window, we say, as the distance from P. O. on the the visual ray A, is to the distance on ray A', so is the first member of the first story window sill to the like member of the second story window sill. The distance on ray A is thirty feet two inches, and the distance on ray

A' is thirty-five feet four inches. These reduced to inches are respectively 362 and 424. The size of the standard or first story member is $1\frac{1}{4}$. The proportion then is $362 : 424 :: 1\frac{1}{4} : 1\frac{1}{2}$ about—rejecting a small fraction, which may always be done in practice— $1\frac{1}{2}$ inches is, therefore, what is required for this member—the first of the second story window sill.

Next in order in the first story is a *cyma reversa* moulding, $1\frac{3}{4}$ inches, as figured in the section, and we have $362 : 424 :: 1\frac{3}{4} : 2$ about. Hence, two inches is the proper size for this moulding on the window sill of the second story. The next in order is a flat member $1\frac{1}{2}$ inches wide; and our proportion becomes $362 : 424 :: 1\frac{1}{2} : 1\frac{3}{4}$ about, the proper size for this member on the second window sill, which is the last.

It will be seen here that the true intent and spirit of our proposition is fully exemplified. We have increased in natural ratio the size of the elevated mouldings, and have rejected one member of the standard, and the space has been filled without excess or diminution. The projections of the mouldings are regulated in every case according to the original standard. That is, their projections should equal their height. And it follows, that if they are increased in height, their projection will be determined naturally, and in ratio thereto.

The above examples illustrate the manner of determining the number and size of all mouldings and members in the architrave and cornice. In the standard one member of the architrave has been rejected, and the remainder increased.

In the cornice, the modillion course, and one member of the corona, which was required there, but would have been superfluous here, has also been rejected. And so on, through all the stories;

the system naturally and justly expels the minor members, and defines the absolute and important. Thus the cornices of the superimposed windows, for four stories, would be in the aggregate, respectively: second story, 12 inches; third story, 10 inches; fourth story, 8 inches, with their appended fractions.

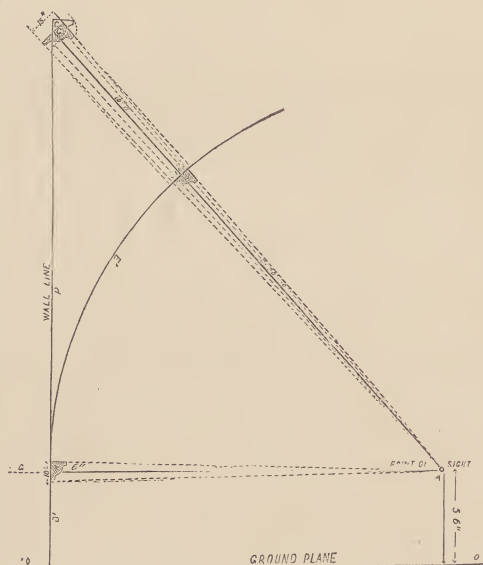
The architraves would be 7, 6, and 5 inches respectively. The sills are $5\frac{1}{4}$, $4\frac{1}{2}$, and $3\frac{3}{4}$ respectively. And while the superimposition of the principal is thus provided for, the mouldings for ornaments are made bolder and less in number in

the ratio of their elevation, while the aggregate of material is reduced in size and weight. Especially is this clear in the projecting cornices of the window, whose relative proportions would be: As the first story is to the second, so is the third to the last.

In locating our entablature over four stories, it is essential that there be a space of wall between its lowest line and the window cornices in a proportion relative to all the horizontal spaces below. Hence, we say: As the first space is to the second, so is the third to the fourth. This last distance laid up on the wall from the soffit line of the last

window opening is the starting point for our roof entablature for four stories. The size of the entablature and the proportions of its mouldings are determined in a manner analogous to those of the windows. Produce C, an imaginary line, passing from the point of sight to the lowest line of the roof entablature in the first story. Produce also C' line from the point of sight to the position of the lowest line of the roof entablature over the fourth story. Find the length of C line, which we will suppose to be 35 feet 6 inches; also the length of C' line, which is 61 feet 9 inches. Now, the

PLATE IV.



Optic Diagram.

depth of the roof entablature over the first story is 4 feet 6 inches.

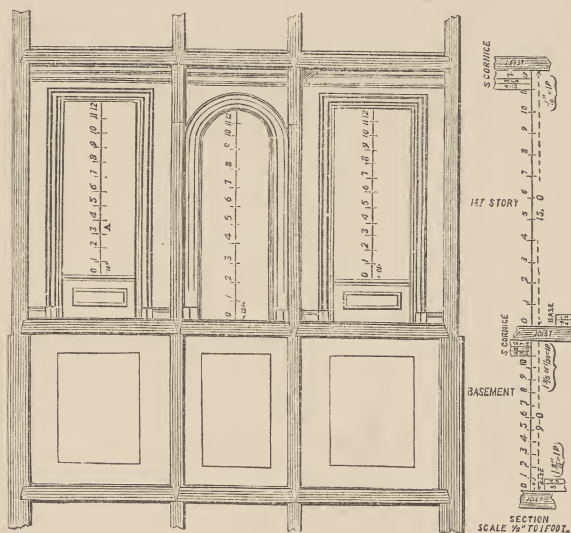
Then $35\frac{1}{2} : 61\frac{3}{4} :: 4\frac{1}{2} : 7\frac{3}{4}$, the whole depth of roof entablature over the fourth story. We next divide 7 feet 9 inches into 150 parts, as contained in the order, and give for cornice, frieze and architrave, the respective parts designated for each in the order, which gives to each division of the entablature the feet and inches marked in the section. By reducing 7 feet 9 inches to tenths, and dividing by 150 parts, we obtain 6.2 inches, a unit of measure for all the

members and mouldings of the entablature. This, increased for each member or moulding as many times as there are parts designated for the same in the order, gives each one its proper size. We here remark, that though the roof entablature would be properly proportioned and in perfect harmony with our rule, yet its size thus produced may not always be found expedient in point of economy; sometimes, perhaps, in practice, because

of its great depth or height. And, to meet the demands of economy, we have adopted another method, which detracts nothing from the harmony of our principle. It is simply that the point of sight be removed one and a half or twice the distance from the wall, for the roof entablature that is used for the superimposed stories. This reduces the depth of the entablature, and is practically better, besides being more economical for the ordinary class of buildings.

To find interior window dressings, or architraves for any window, divide the window opening into twelve diameters. Then divide one diameter into fifty parts. Then with one part, as a unit of measure, determine the width of the architrave. By increasing one part forty-five times, or the number of parts designated in the order, we have the whole width. It may now be subdivided according to the proportions of the order—which would be architectural—or such other suitable proportions may be given to mouldings as the taste and judgment of the Architect may suggest.

PLATE V

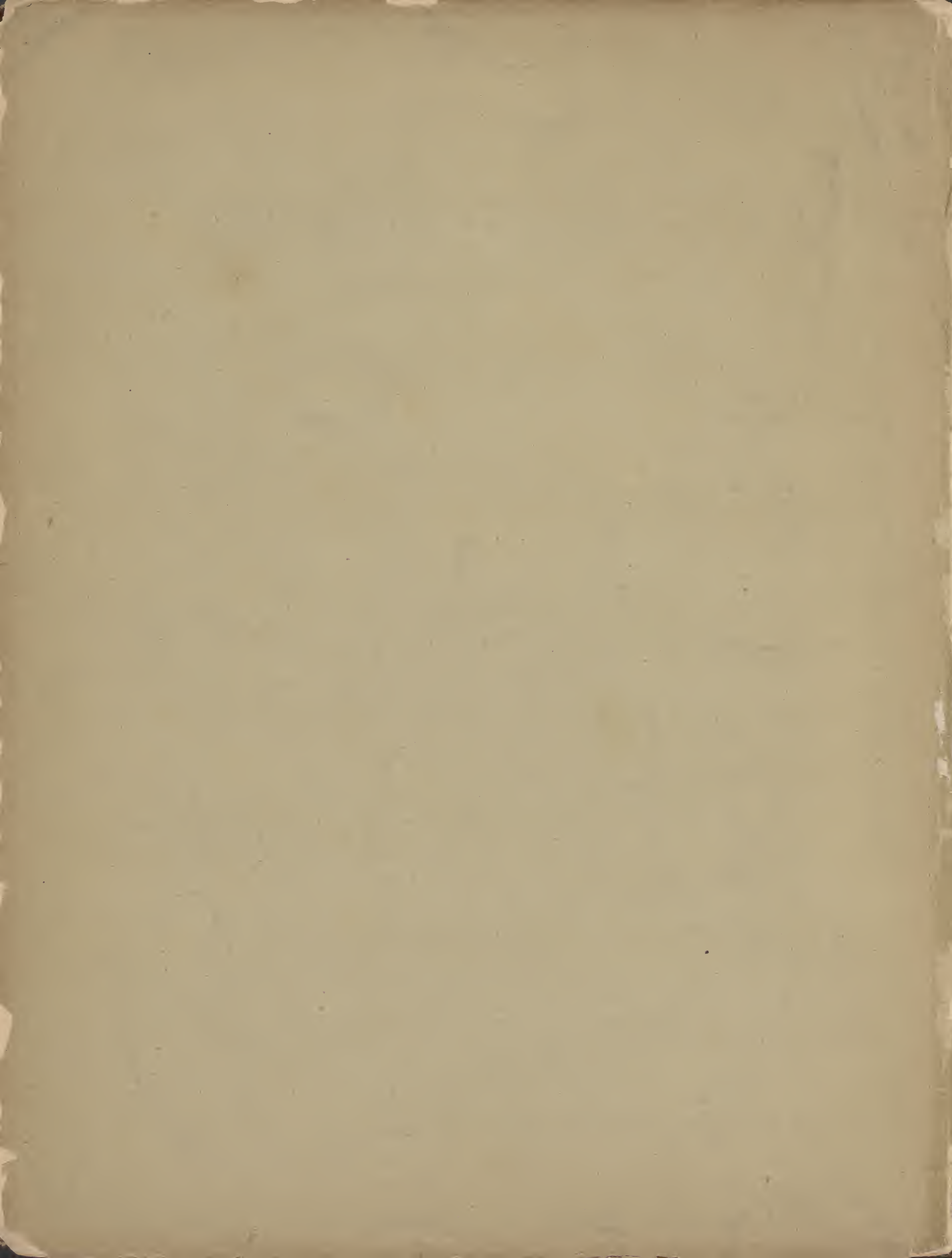


Transverse Section.

Architecture in its various aesthetic and practical stages, thus enabling members to compare notes of progress, as it were, that the inferior practice of some may be improved by the more advanced practice of others—especially improved by the practice of the older members of the Institute, from whom all younger members of the profession, myself included, would gladly learn.

The practice of trimming window and door openings with an architrave only, is quite modern, and may be regarded as a fancy of the Soanian period, which seems sufficient for all ordinary, and some first-class, works.

In conclusion, allow me to say, the object of this paper is the treatment of a subject allied to our art, and for the purpose of drawing from the Institute future papers, or some expression from individual members relating to their practice of Archi-



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