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ENGLISH "GEORGIAN" ARCHITECTURE.

The Source of the American "Colonial" Style.

THE identity of the English and American peoples in point of race and language is patent, incontrovertible, acknowledged by all; but that at one time there was an equally evident identity in the style of building adopted in the two countries is by no means so well known. Yet this was the case but little more than a hundred years ago, in the days when the States were but colonies of the British Empire, when their peoples lived English lives upon American soil, and before that energetic development commenced which has made of these colonies a powerful nation, and has been as good for building as it has been bad for architecture, particularly that of the reposeful kind.

Repose had been the principal characteristic of the English "Georgian" work; it was the characteristic of the contemporary, and in fact identical American "Colonial." This is well shown in the illustrations to the articles upon "Colonial Annapolis," and "The Colonial Buildings of Rensselaerwyck" which appeared in the *Architectural Record* for the first quarter of 1892, and the second quarter of 1895, respectively, and with which it may be interesting to compare a few examples taken from houses of the same date in and around London. They are not isolated examples by any means, but only a few ordinary typical specimens of just that kind of house which was being erected by the flourishing middle-class in London and its suburbs, and in almost every country town as well, a century or more ago.

Whence this style arose, simple, comfortable and homely, essentially domestic, it is difficult to say. Probably it was of native growth, meeting the needs of the times in a natural manner; for no development can be traced from anything which went before. But shortly before its appearance the country had been torn from end to end by the Great Civil War, during the continuance of which all building ceased, and architectural precedents were lost. Even afterwards recovery was slow, and although the Fire of London had necessitated much rebuilding and had given Wren his great opportunity, there

was not much domestic work done until the settled days of Queen Anne. Possibly the wars in the low countries of the previous reign had drawn attention to the value of brick as a material for this class of building; but there is no sign of either Dutch or Flemish influence in the style which then arose in England and to which the name of "Georgian" has been given. Two houses, excellent, typical examples, are known to have been designed by Wren himself during his declining years, one being at Chichester and the other at Wandsworth—the latter pulled down some five years ago to make room for rows of



"FAIRFIELD HOUSE," TOOTING.

so-called "villas." It is quite possible that these two were the first erected, the style thus originating with the great master-architect of the age.

Whatever its origin, however, it was rapidly and universally adopted; and it appeared at once as a perfected style, showing no development, but decadence only, as time advanced. Built in almost all instances of brick, with timber enrichments, such as cornices and doorways, painted white to represent stone, the buildings commonly took the form of rectangular cubes, somewhat after the manner of the Italian palaces, having deep modillioned cornices propor-

tioned to the total height, and with either a steep roof or a parapet above, the roof frequently having a flat top. The window openings were large and absolutely unornamented; but the doorway, centrally placed in the front, was marked in some way, with order, pediment or hood. Dormers of a plain description were common in many instances hidden behind the parapet; and it is usual to find small horizontal string-courses marking the division of the front into stories.

Such are the usual characteristics of an early Georgian house, of which "Fairfield House," Tooting, is an excellent typical example,



"EAGLE HOUSE," MITCHAM.

departing only from the description given above in having angle quoins in plaster. In this instance, too, the outer door reached by a flight of steps, the principal floor being raised considerably above ground level, and the kitchens occupying a lower and a partially excavated floor—a system of planning which subsequently became general upon the restricted building sites of London and other cities—and the marking of the doorway is accomplished by means of a projecting semi-circular hood, carried by projecting brackets, and enriched with the ornament known as the "Venetian shell." As in the illustration this is partly hidden by the high boundary wall, an-

other example may be seen at Jesus College, Oxford, where the shellhood is an addition to a doorway in a building of much earlier date.

This type, though basic, was, however, by no means without its variations, of which the earliest, and at the same time the most usual, was the introduction of a pediment in the middle of the front, as at "Eagle House," Mitcham, built in 1704. There, too, the dormers are treated more as architectural adjuncts than is usual, having moulded segmental pediment heads; and the flat top to the roof is utilized as a lounge in summer-time, by the introduction of an open balustrade round it. The lantern is, however, a modern introduction, the house now forming the Infirmary of the Holborn District Industrial School.



— THE ALMSHOUSES, WOKINGHAM.

Probably the most noticeable feature of this house is its iron gate, an exceptionally beautiful one even when compared with the many other fine specimens of the smith's art put up in England at about that time. During the entire Georgian period, while the houses themselves were substantial rather than ornamental, no expense or pains were spared to make the entrances symbolical of the wealth and taste of the owner; and different in character as the light and lace-like iron tracery was from the sombre and sturdy looking houses, yet each enhances the value of the other and seems so necessary to the other that a Georgian house without wrought iron work about it appears to many to lack one of its most essential features.

It is interesting to compare the large gates of "Eagle House" with the smaller one at "Baron House," now occupied by Mr. J. Boobbyer, which was put up, as testified by the date it bears in Roman numerals, in 1807, or nearly a century after the other (see p. 104). In spite of the lapse of this long period of time there is but little difference in the character of the design, unless it be in a general appearance of greater lightness, and in the absence of any naturalesque leaves or buds.

In the ordinary course of events circumstances would arise at times which rendered even less strict adherence to the general type possible than at the "Eagle House." In such a case a symmetrical plan



Clapham Corners, "STANMORE" AND "FRANKFORT HOUSE,"

London.

became the one essential feature of the period, others being modified to suit the circumstances, an instance of this being afforded by the Wokingham almshouses, necessarily a long, low structure. The usual plan of the previous Elizabethan period, founded upon the letter E, was adopted, with a slightly projecting central portion marked by a pediment, and two end wings. Otherwise the type will be seen to be pretty closely followed, with red brick walls, tiled roofs of a steep pitch, and with a heavily modillioned cornice. Though little money was expended upon ornamentation, an effect was produced which is suggestive of substantiality and of comfort.

Another frequently occurring instance of the modification of the type occurs in a pair or row of houses. Such a pair are "Stanmore" and "Frankfort House," facing Clapham Common, in which the Ionic porches, as also the attic to "Frankfort House," are much later additions. In fact the latter feature, with its plain coping, is as eminently characteristic of the later Georgian work as are the balustered parapet and half-hidden dormers of "Stanmore" of the earlier. The shaped gables of the latter house are noticeable, as also is the gutter between the double span roof, though this is almost as usual in many parts of the country as is the typical flat top. An-



"THE CANONS," MITCHAM.

other change from this type is in the omission of the modillions from, and the consequent lightening of, the cornice—enough to show that erection is not to be dated back so far as to Queen Anne's reign, but at furthest to the time of the earlier Georges; but otherwise all was as usual, symmetry even being carried to the stables of the two houses---those of "Frankfort House" appearing in the photograph---and to the wide carriage drive, semicircular grass plot, and sunk "ha-ha" in front, all significant of the days of your great, great grandfathers.

Though more nearly true to type---almost absolutely true, in fact,

but for recent additions—"The Canons," Mitcham, is of still later date, belonging to the latter half of the eighteenth century; but the only signs of this are to be found in the lesser boldness of the cornice and the plainer character of the doorway. The plain and substantial staircase, too, with its broad handrail and twisted balusters bears out the general impression of homeliness without ostentation, which is invariable; but it is a pity to reflect that the present building re-



STAIRCASE IN "THE CANONS," MITCHAM.

placed others of greater archæological and probably also of greater architectural value. This had been the site of the country dwelling house of the canons of the great church of St. Saviour's, Southwark, possibly better known as St. Mary Ouverie; the fishpond and columbærium (pigeon house) belonging to which still remain, the latter containing a low doorway of the fifteenth century, but with a hipped roof and lantern of the eighteenth.

Later again, much later, and of the present century, is "Wallace Lodge," Balham, the residence of E. Smith, Esq., M. D. (Lond.)—a clever and highly qualified young doctor who has lately buried himself in this out-of-the-way suburb—and by the time of its erection the type had been almost lost sight of. There is still symmetry, for this is one of a pair of houses, and the doorway is pronounced, but the cornice has given way to widely projecting eaves, and the roofs are of low pitch and of slate. The doorway is in fact the only

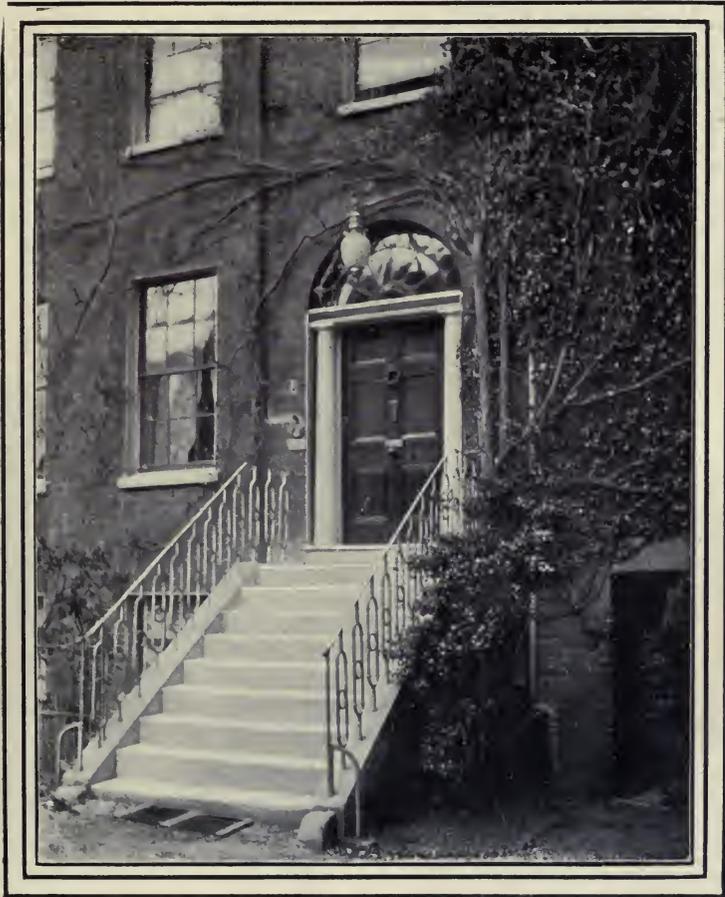


GATE OF "BARON HOUSE," MITCHAM.

feature in the front, for the proportions are otherwise indifferent, and the general idea of solid comfort present in the earlier buildings is scarcely so apparent now, while even the doorway consists of nothing more than a pair of Doric columns set within the jamb.

With this species of deterioration the domestic architecture of the Georgian period in England gradually faded away to nothingness, to the absolutely commonplace; but America had become a distinct country by that time and causes were consequently at work to produce divergence of custom and of architecture in the two countries, so that there is no necessity to pursue the subject further.

But what, it will be asked, of the contemporary ecclesiastical



FRONT DOOR OF "WALLACE LODGE."



ST. MARTIN'S-IN-THE-FIELDS, LONDON.



CLAPHAM CHURCH.

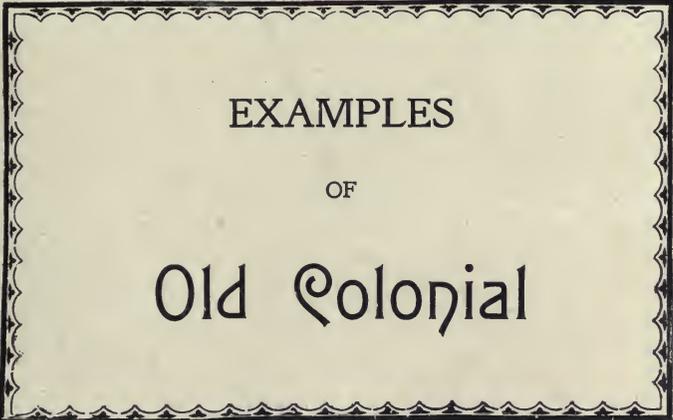
work? Did that in any way follow the same lines as the domestic? And the answer must be both "yes" and "no." The type was necessarily different, to begin with; and in England, at least, there was not much done, we being well provided with churches, heirlooms from the Gothic builders of the Middle Ages. But in London some few were erected, the type being set by Wren and his successors in the well-known city churches—the well-known St. Martin's-in-the-Fields, by Gibbs, being given as illustration—the prominent features being the classic portico and spire. It was natural, with such



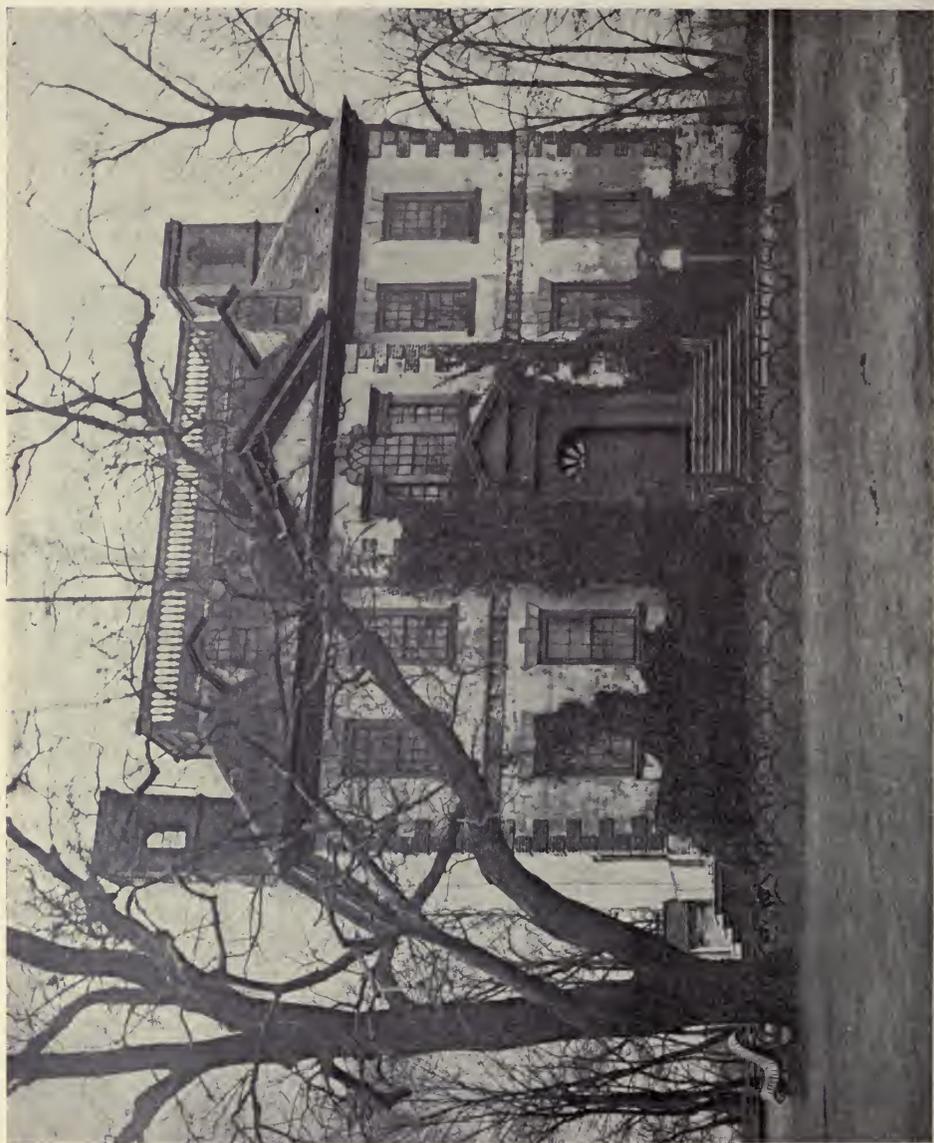
"WALLACE LODGE," BALHAM.

grand examples existing, that the suburban churches should be built upon somewhat similar lines, and in Clapham Church, as in several others, this will be seen to have been done; but it is a deteriorated classic, its redemption being found only in its eminent solidity and air of respectability, while what beauty it possesses is due rather to tones which age has contributed, and to the leafy surroundings, than to any qualities which belong to the design itself.

G. A. T. Middleton.



EXAMPLES
OF
Old Colonial



Fairmount Park, Philadelphia

ARNOLD MANSION.



OLD CITY HALL,

Albany, N. Y.



RESIDENCE,

Portsmouth, N. H.



Portsmouth, N. H.

DOORWAY,



IN SALEM, MASS.



IN THE LADD RESIDENCE,
Portsmouth, N. H.

DOMESTIC STAINED GLASS IN FRANCE.

WE think it necessary, before proceeding with the following paper, to state clearly that we have not the least intention of composing a manual of processes and formulas. We shall not disclose any trade secrets, and only here and there will our descriptions be interspersed with a few technical terms, if necessary. Moreover, special works exist for the use of persons who are desirous to inform themselves as to the manipulation of vitrifiable colors, burning in, cutting and putting the pieces together, as well as upon the progress yet to be made and the imitations to be on one's guard against. Consequently, our present task—we desire to emphasize this at the outset—is merely that of enlightening the readers of this magazine in regard to the present state of the stained-glass window manufacture in general and of domestic stained-glass windows in particular. This paper will, therefore, contain few technical details or references to material causes, but will merely describe effects and results. We shall speak of taste, good workmanship and knowledge; we shall deal with the decorative part of the subject and the profound science attached thereto—a science wholly devoted to the worship of art and respect for that part of architecture called decoration.

It is scarcely twenty years since the taste for stained-glass windows for private houses took root in France. The cause of this sudden leap into favor must be sought in that great riddle known as *Caprice*, which, in spite of its seeming futility, has a material influence of wider range than is supposed.

Towards the close of the last century a master glass-maker named Avelin addressed to a learned society a memoir on the conditions of the glassmaking industry, and this memoir ended with this discouraging phrase: "This art has so fallen into disuse that the opinion is generally entertained that the secret of painting on glass is lost."

Such a disheartening view is calculated to fortify the idea held by many people nowadays, who affirm that the present generation of glass makers do not know how to manufacture stained glass—that it is a lost art. This is a grave error against which it is necessary to make a stand. Not only is the secret of stained glass manufacture not lost, but in face of the evidence which we have daily before our eyes we are obliged to admit that it is very well known and has been considerably amplified by the intelligent phalanx of art workers of whom our country has reason to be proud.

There is one fact which is very clear. At no previous period have workers in glass been so abundantly provided with the means of execution. To-day there is not a single difficulty remaining to be overcome. Everything is turned to account by them, and their laboratories—one might literally say their arsenals—furnish them with resources of the most varied, the most unlooked-for, the most delicate and at the same time the most decorative character. There is no longer a single color, a single shade, simple or compound, that has resisted the skilful investigations of chemists. Dumas, Chevreul, Brongniart and other savants after them, have done all that is to be achieved in this direction. The manufacture of glass has now been brought to such perfection, and is based upon such sure methods, that it juggles, so to speak, with its difficult features, which consist in the imitation of ancient windows, inequalities of level, thickness and coloration, bubbles, striae, bunchings and the devitrification which manifests itself sometimes as an acreeous haze and sometimes as a disaggregation of the surface, altering the transparency. Without dwelling upon what are at present trade secrets, we may say that the actual state of this industry allows of the production of granulated, crushed, reticulated, undulated, cracked, and other kinds of window glass, obtained by moulding or otherwise. Other kinds are produced into which are sunk filigrane-work, spangles and divers other substances. Others again are opal or milky, with the peculiar feature that they are dichroic; that is to say, they have the curious faculty of changing tint according to the quantity of light they receive, or even according to the luminous jet which traverses them or the point from which they are viewed.

This rapid outline is sufficient to demonstrate that the assertion of the glassmaker, Avelin, was somewhat wide of the truth. But, although what are called the "secrets of glassmaking" are not lost, it is certain that the present excess of manufacture has caused the most important means of execution, the most arduous and therefore the most interesting processes of vitrification to be neglected for the sake of attaining that deplorable but unfortunately justifiable (under the circumstances) result, namely, a large and rapid output.

It is quite certain that there was a period during which the art of glass staining slumbered. The masters of the art delighted in embellishing stately castles and venerable churches. Previous to the last score of years, the only work for which their talent was called into requisition was the restoration of chapels or the completion of the large windows of such manor-houses as were spared by the Revolution. The glassmakers of France, and of every other country for that matter, were few in number. Their skill and talent went to sleep in the stillness of old out-of-the-way castles and ancient cathedrals, upon which they concentrated all their energies and care, as

do goldsmiths upon the setting of the jewel which seals their reputation.

But the fever of the busy times in which we live drew them away from their task. Steam, electricity and iron, which have made our epoch an industrious epoch, perhaps, but unquestionably an infernal one, have caused the world to move faster, put life into the fields, noisy traffic upon the roads—in fact, activity everywhere. From the combination of capital have sprung up cities of metal, immense establishments, sumptuous palaces, railroad stations, warehouses, breweries, public edifices, factories, mills, colossal buildings where luxury of decoration, internal and external, has taken refuge.

This was, in a certain manner, the renaissance, by deduction, of furniture and stained glass. But into this, as into every renaissance, false beauties entered by the same door as the true. The sudden demand for stained glass, the desire for large colored bays, brought into the field artists who were such only in name. The master glass-makers disappeared or were swamped by the rush of producers of doubtful taste. Windows were required for the many buildings in course of erection, and windows were forthcoming; a few of superior merit, a certain number passable, but the majority detestable. In short, it may be said that, although excessive manufacture has revived the drooping art of glass staining, it has at the same time called forth bastard productions which have nothing in common but the name with that delicate work which illuminates the great monuments of the Middle Ages.

We have just said that this abundance is one of the causes of the scarcity of fine workmanship. It has killed quality. First-rate work is still done, in order, no doubt, to prove that it can be done, but makers do not by any means utilize all the resources of their art. Neither the necessary time nor the necessary money is bestowed upon it, and instead of working with the aid of these valuable factors, they rival each other in speed rather than in beauty of execution, and they paint the glass in order not to have to put it together.

Formerly, one observed, in all the shades great clearness in the coloring, united to an exquisite softness. The whole arrangement was powerful and harmonious. This was due to the irregularity of thickness, to the non-parallelism of the faces, to the unequal distribution of the color; in fact, to everything that constitutes the art of glass-staining. The old makers knew how to strew in the glass, in order to attenuate its brightness, bubbles, flats, opaque, points, etc., and they attained those marvellous results which all of us are able to admire still, for their handiwork has, among other merits, that of endurance.

At the present day imitation, which has become so clever and penetrates everywhere, has superseded all that, and we think it our

duty to borrow from one of our most skillful master glassmakers, M. Felix Gaudin, the following particulars, which will show, more clearly than we could explain, what this imitation is now capable of doing.

"The principal inequalities of old stained glass have been carefully utilized for the creation of new types, which are employed in domestic decoration. Thus, the bosses or roughness of surface, the inequalities of coloration, the veins, cords and threads running through the mass, the pearliness arising from devitrification, etc., have not only been imitated, but by means of clever selection, amplified and improved to such a point as to give birth to positively new kinds, clearly characterized and yet difficult to differentiate, for one is absolutely bewildered by the ingenuity of the inventors, who have hit upon various methods, all of which are good and practical. For example, there exists four sorts of granular glass the aspect of which is almost identical, although one sort is obtained by blowing, another by rolling, a third by engraving and a fourth by powdering."

This shows what our glassmakers are capable of doing. But, without sharing the views of the numerous body of persons who draw too dark a picture of what they consider this abandoned art, we must say that, despite the prosperous condition of the new discoveries, our artists are unwilling to waste their valuable time in applying them. It is all over with the learned, powerful and finished styles of decoration in which our ancestors took delight; all modern manifestations of the glass-staining art suffer from the state of mind of the artists; they are roughly colored, the colors are let go, more regard is paid to the impression than to the design, to the effect than to finish, to sale than to workmanship. It is certain that to-day, as in the past, stained glass finds its most congenial application in the decoration of religious edifices, and yet, at present, it is perhaps less used for this purpose than for any other. New public buildings and private houses absorb all that is produced. It is true that, here and there, a few ancient windows are being restored, and that with skill; at distant intervals some flat tints and some mosaics have also been manufactured, but all this forms only a small part of what glass stainers are capable of furnishing.

It is, however, in the search for subjects that the greatest mistake is made. We have seen that our makers, far from being ignorant of their business, have gone to its very root, but in the quest after compositions the efforts made have been less successful, not to say entirely negative. Consequently, the fault is not, properly speaking, to be laid at the door of the glassmaker, but to that of the cartoonist, to the painter, who does not exert himself, but relies upon the ability of the workman who executes his design to supply any deficiency.

What are the subjects treated in the early examples of stained

windows? We find veritable pictures, extensive compositions, opulent scenes teeming with figures full of life and movement. In the humblest churches as well as in the proudest castles we have heroic, rural, martial, pastoral and other scenes. To gratify the vanity of the abbots and of the lords of the manors, the "skies" of their windows were overlaid with the appanages of their nobility; that is to say, with armorial bearings, devices, symbols and emblems.

It should be remarked here, as an interesting detail, although not closely connected with our subject, that the decoration of churches with stained windows was first thought of in the Middle Ages for the purposes of removing the thoughts of simple and pious people from the contemplation of existence. In directing their minds to the attentive contemplation of these pictorial representations of Holy Writ, the trivialness of their daily lives faded before these glimpses of paradise.

But let us return to our theme. Nowadays these lofty compositions are no longer produced. We follow the fashion, that absurd and rickety fashion, which in its eagerness for seeming simplicity, crushes the slightest efforts and stunts all attempts to do something grand and imposing. There was first a great liking for seals and imitations of the small Swiss medallions, but this inclination was of short duration, as is always the case when the sentiment does not rest upon real affection. Then arose a fondness for affected bucolics full of insipidity—Watteau shepherds and pink little sheep abounded, without the appearance of one single meritorious work to justify this infatuation. The wind next blew from the East, and there was a sudden run upon things Japanese. But what a ridiculous, spurious, servile copying of imported works! What was chiefly selected for imitation was the hideous, which people have agreed to call the strange. We know that ugliness, when it is positively horrible, almost amounts to beauty. Inspired by this subtlety, ugliness was the one thing aimed at. However, there was another change of fashion, and the "Japaneseries" were sent to join the "Watteaus" in some dark corner.

The artist whose task it is to make the drawings for our domestic stained glass windows—and it is these that we are treating of at present—have never realized the necessity of freeing themselves from imitation of the past, taking care, of course, to avoid seeking inspiration from sources which leave nothing clear, decisive or durable. Stained glass plays such a large part at present in house building that it is requisite to know how to meet the requirements of the case without being concerned about styles and without following any ready-made formulas. The chief thing is to clearly define the complex object to be aimed at. When this is done, its realization becomes easy, for the means of execution are as plentiful as the executants.

Before submitting a few specimens of stained windows, which will give a fair idea of contemporary æsthetics, we think it will be of great interest to describe in a simple and precise manner the conception held by the leading French stained window makers in regard to the ornamentation of private houses. This seems to us all the more desirable, as it establishes a parallel, foreign makers having, if not other styles, at all events other tastes, as much open to discussion as ours.

In the first place, one sees few bold colors, for the very simple reason that these colors, which are necessary in a work of broad scope and large dimensions, would become tiresome if one had them constantly before the eye. It is, therefore, wise to employ, as is the custom, a medium coloration of soft, attenuated tints. This manner of proceeding has also the unquestionable advantage which springs from a necessity, that it allows for the entrance of an abundance of light into our homes.

Among the numerous brands of glass in existence it is best to choose those that are limpid and regular, from which all shades of blue seem to be excluded, and which, on the other hand, abound in warm, pleasant shades of yellow and red. This is owing to the fact that blue and its compounds have in them something melancholy which renders them unsuitable for the decoration of any room except an oratory.

In order to avoid the monotony that attaches to even the most beautiful objects, and especially to colored windows which more or less resemble each other, it is the practice to introduce opal and dichroic glasses, which, by the effect of various lights, change their tints in a very agreeable manner. These glasses, which are largely used in France, impart a delicious animation to the compositions of which they form a portion and seem to make them quiver with life.

Furthermore, for certain stained windows of the first order, milky and opaline glasses have been adopted, which suit the purpose very well, especially in cases where it is only a question of ornaments. With these milky or opaline glasses, the use of which is extending, it will be possible to constitute decorative arrangements of the most interesting character, very transparent inside and appearing from the outside like mosaics and frescoes, producing a soft and charming effect. This may be regarded as some sort of palliative to those immense glazed bays, which, instead of brightening the halls where they are placed, give them a dull, disagreeable aspect, so much so that one anxiously asks himself whether the medley of colors and lead which he sees before him is a masterpiece or a horror.

In Paris the flats are so arranged that in many cases long corridors and subsidiary rooms, vestibules or closets, have to be lighted by means of dormer-windows. The latter are easily transformed into really decorative pictures in which the eye is charmed with

foliage, arabesques, twine, accentuated by the silvering, or in some instances the gilding of the lead, etc., which appear as beautiful in the artificial light of lamps and candles as during daylight.

Attention is also paid at the present time to a special kind of work of which we will say a few words, as it has acquired a right to a place



Designed by Grasset.

Figure 1.

Executed by Gaudin.

(In Chateau, Chalons-sur-Saône.)

in the art of glass staining. We refer to what can be done by embedding pieces of stained glass in plaster or cement suitably pierced. This is the only way the Arabs have of decorating their mosques, and they have in this curious and not unartistic manner acquired the faculty of transforming common lanterns into sparkling lustres.

By combining these same glasses with forged iron, which, we may say, is an efficient substitute for lead, our modern house decorators produce large transparent enamels with inlaid metal divisions, forming a very artistic and inexpensive decoration for gratings, frames, imposts, etc. From the outside as well as from within, the appearance is pleasing, and this method of decoration has the great advantage that it is not necessary to double with plain glass.

Speaking generally, it can be said that, although glass is called

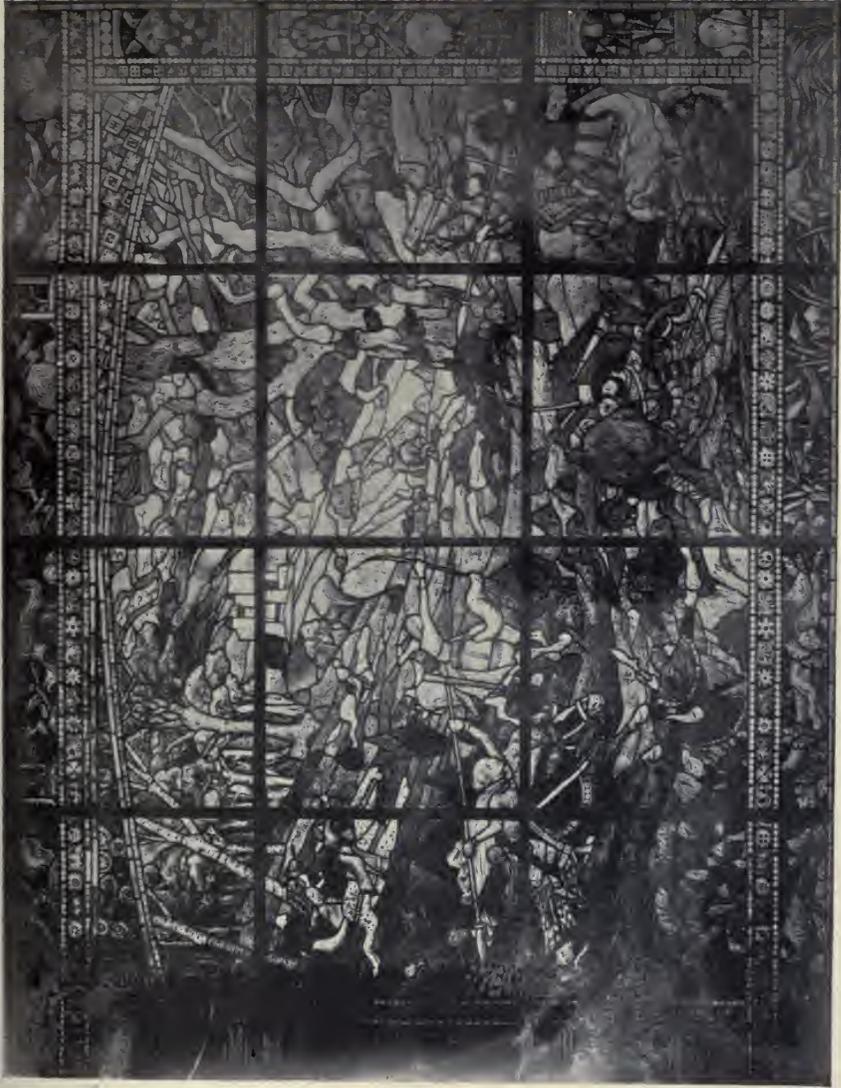
into requisition nowadays for many purposes in connection with housebuilding, it is not yet put to all the uses to which it might be applied. In France we are not innovators. We strive with great energy to amplify what foreigners, especially Englishmen and Americans, bring to us, but we rarely act upon our own initiative. It is on this account that we Frenchmen are not yet accustomed to the use of bricks of blown glass, which, being elegant and strong, offer great advantages and could be utilized in manifold ways, nor to the use of glass for transforming pavements, steps and raisers into illuminating surfaces, which would give the cellars of our buildings a value they certainly do not possess at present.

The series of artistic stained windows which we shall illustrate in the course of this article have been chosen with great care. All the styles now in favor in France are represented, from the return to the classic cartoon up to the most disheveled, the latter specimen being of a design that the new schools admire and the old ones decry, without any decisive argument, either for or against the new art, resulting from the dispute. The future, in this as in everything, will tell what value there is in these peculiar designs, made up of symbols and so simple in appearance.

Fig. 1 represents a magnificent dining-room window. It was designed by Grasset, who is the painter most in favor with our chief makers. He has so thoroughly assimilated the art of glass staining that even those of his colored drawings which have not stained window making as their objective seem to be stained windows themselves, shedding around a hieratic, majestic brightness wholly their own. The window here shown represents Spring and Autumn. It was made by the master glass-stainer Gaudin, whose name will recur repeatedly in the course of this article, and is in the château of Mr. L. C.—, at Châlons-sur-Saône. When one looks at this window a delicate poetry seems to emanate from it. The perfection of the image and the finish of the detail enhance the charm of the subject, and certainly anyone seated in the room lighted by such a window might well fancy himself transported towards those bright heavenly regions of which poets have sung, where the fruits are delicious, the women lovely and the flowers full of perfume.

This double window, so eloquent and so graceful, is the brightest jewel in the crown of modern French art.

We now come to Fig. 2, executed by the same maker. It is a most inconceivable arrangement. The cartoon is by the eminent French painter, Luc Olivier Merson. It represents a hunt, a fantastic scene in which cavaliers, hunters and lances cross each other in fabulous gallops, distracted flights and brusque leaps. In the distance, within range of the arrows launched by the longbows, is seen a forest whose leafy trees intermingle their branches; and still further away, as if dominating the combat, impassable upon its rocky foundations,



Designed by Luc Olivier Merson.
Figure 2.
(In the Gallery of M. Pector, Nicaraguan Consul, Paris.)
Executed by Gaudin.

stands an old castle with queer shaped turrets, in defense of which, perhaps, the fight is being waged, for the hunt we see may well be a man-hunt. In any case, man-hunt or hunt after beasts, the work is perfect in its realism, its animation, and its bits of stirring strife.

In Fig. 3 we have a very graceful allegory of Photography, that



Figure 3.



Figure 4.

comparatively new factor in the world's industry. This personification of Niepce's art, with all the appliances thereof tastefully arranged around her, is truly charming. The makers of this window are MM. Hubert & Martineau, and its fortunate possessor is Mr. Pector, Nicaraguan Consul at Paris. It ornaments his gallery in the Rue Lincoln.

In the same line of thought, we have next a personification of the

Press, that wonderful propagator of ideas (Fig. 4). The star shining on the brow of the figure indicates its usefulness and its glory. This window embellishes the hall of a leading Paris journal and was produced by the expert hands of MM. Hubert & Martineau.

We now come to a window of an entirely decorative character, but which is none the less a genuinely artistic conception of the purest and clearest kind, in spite of its apparent obscurity (Fig. 5). It is a double window and is placed over a door in the house of M. Paul



Designed by Grasset.

Figure 5.

Executed by Gaudin.

(In the residence of M. Paul Robert.)

Robert. Grasset, who designed it, pictures in a corner of the "sky" a radiant sun which vivifies a majestic specimen of the plant which bears his name and which emerges upright and lifelike with its bright green leaves and yellow petals. This work is by Gaudin, as also the following one (Fig. 6), which is a portion of ceiling eminently artistic in its simplicity of detail.

In Fig. 7 is shown a very fine production by the cartoonist, Grasset. It represents Music, and is intended for the decoration of a concert hall. This conception is so beautifully soft, so mystic, so ethereal and so celestial that it is difficult to describe it well. Only the eye can appreciate it, so much imagination is there in the charm which

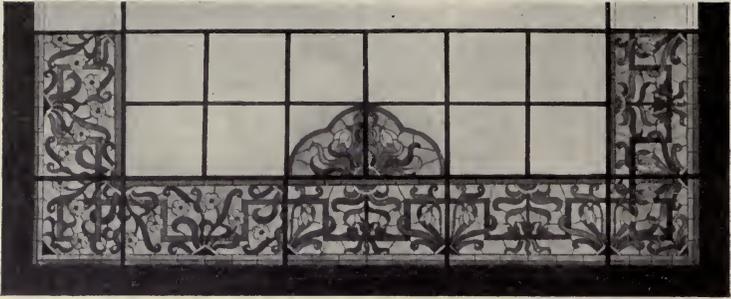


Figure 6.



Figure 7.

Designed by Grasset.

Executed by Gaudin.

it breathes. In gazing upon this work one seems to hear a slow, sweet violoncello melody, and there steals over one the ineffable feeling of content experienced in the silence of a calm evening. Everything contributes to this effect, from the enigmatical moon behind the trees to those unknown flowers which one imagines to be beauti-



Designed by Luc Olivier Merson. Figure S. Executed by M. E. Oudinot.
(Made for M. Chandon, of Moët & Chandon, Epernay.)

ful and odorous with a dream-inspiring perfume. It is M. Gaudin who, in this rapturous work, has interpreted M. Grasset's fine conception.

We next come to something exceedingly delicate and graceful, intended to serve for the ornamentation of a nursery. The subject is extracted from a collection of popular French songs (Fig. 8).

Sur le pont d'Avignon
Tout le monde danse, danse;
Sur le pont d'Avignon
Tout le monde danse en rond.



Figure 9.
(Detail in lower part of Fig. 8.)

We see pretty children dancing a sort of minuet, full of salutes and reverences, reminding one of the olden times. We also see the bridge, that historical bridge, over which the Popes used to pass, with its massive gateway and frail lantern. At the bottom of the window appears the music of the roundelay, while an angel of deliciously frank and merry expression beats the measure on a tambourine. We have thought well to reproduce separately (Fig. 9) the corner of the window containing this angel. The author of the cartoon for this



Figure 10.
Designed by M. P. Verneuil.

work is M. Luc Olivier Merson, and the window itself is by M. E. Oudinot. It has been made for M. Chandon, of the firm of Moët & Chandon, champagne growers at Epernay.

In Fig. 10 we give an illustration of a curious window for a sitting room. There is a shy tenderness about this design, which is by M. P. Verneuil. This female visage, bust and arm, entwined with flowers and surmounted by a sky in which little birds are flying, have something mystic in them, made up of quietude and old memories. The work is entitled "The Woman and the Poppies."

In the course of this study we have shown the different conceptions formed by our stained window makers in regard to their art. We now give a series which will serve as an example. In the four or five windows of which we are about to speak, painting on glass has in several places been substituted for mosaic work. The effect produced is certainly very fine, and the painter is able to indulge in a luxury of



Figure 11.

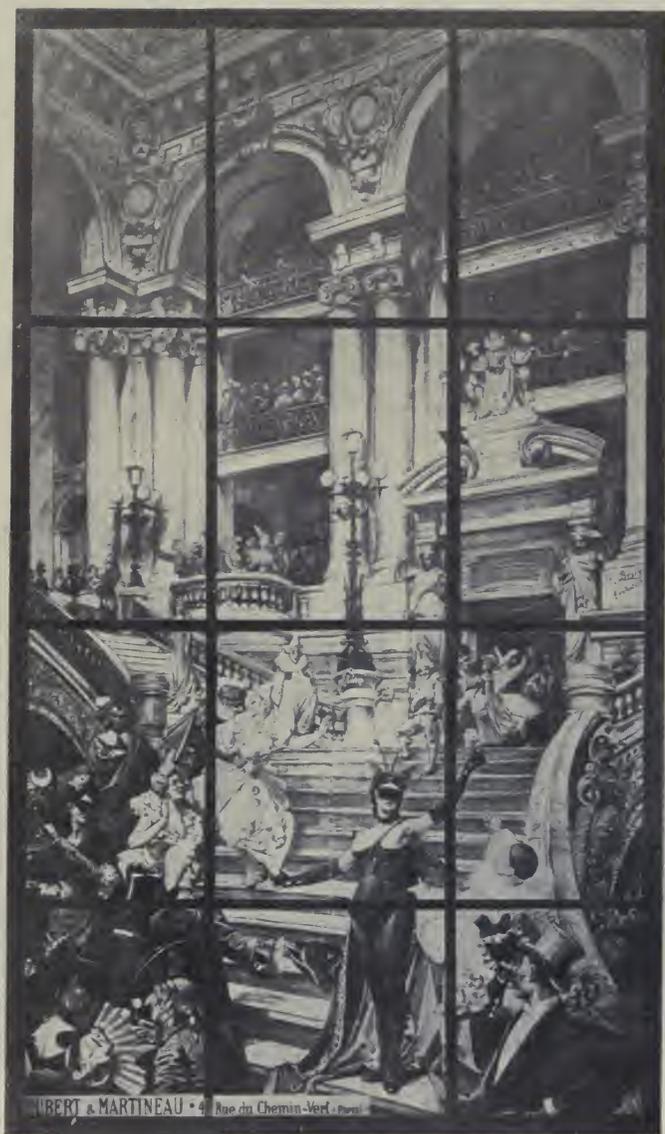
detail which, in all likelihood, would be impossible to the glass worker, however expert his fingers might be. But, although the effect is fine, such work is not so durable, a point worthy of consideration.

Fig. 11, Springtime, is an allegory full of grace and lightness. This window is for a conservatory. The scantily clothed figure personifying Spring, with iris blossoms at her feet and a bunch of flowers on her knees, has her eyes fixed on the sky, enraptured with the bright, smiling display of nature around her.

The rapid increase, in France generally and at Paris in particular, of those establishments called brasseries (breweries), although they supply many other beverages besides beer, which, moreover, is not brewed there, has been a godsend to the stained window trade. Fashion demanded that all these brasseries should be installed in the same style. There has consequently been a great run on stained windows during the last five years or so. Naturally, for one good window a score of worthless ones were put up. The fantastical

names given to these brasseries suggested vitrified decorations in the worst possible taste and at the same time of the most comic character. Gambrinus, Heralds-at-Arms, allegories of Coffee, Beer, Absinthe and a host of other beverages more or less adulterated, were the usual and by no means complicated subjects depicted on these windows. French soldiers and Russian sailors were also immensely popular for a short time, but, like all things which become the rage merely through the caprice of the hour, these ornamentations are already beginning to go out of fashion.

Far more interesting is the subject illustrated in Fig. 12. It decorates the large room of the Café de la Paix, in Paris. It is a faithful picture of the grand staircase of the Paris Opera House on the night



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Figure 12.
In the Café de la Paix, Paris.



After Hyppolyte Berteaux.

Figure 13.

A Luminous Ceiling in the Hall of Festivities, Firm of Dufayel, Paris.



Figure 14.

Executed by Hubert & Martineau.



Cartoon by Besnard.

Figure 15.
("The Woman at the Spring.")
"Symbolist" School.



Figure 16.



Figure 17.

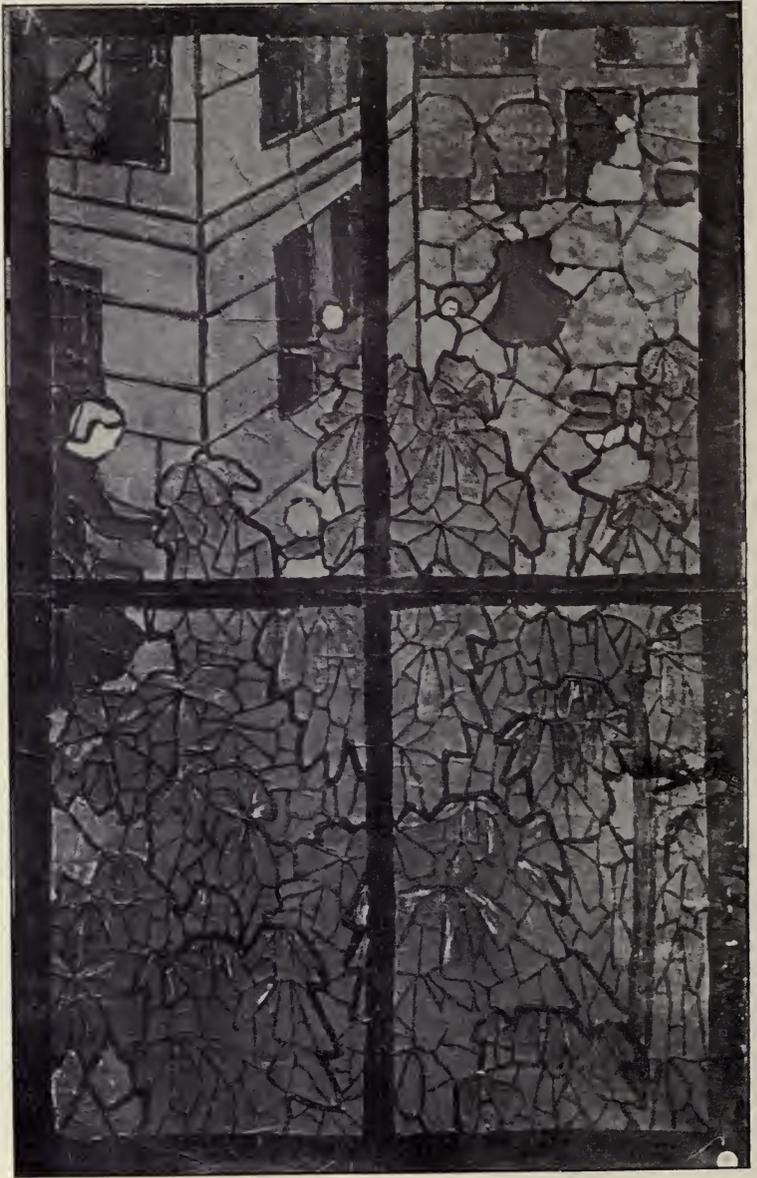


Figure 18.

of a masked ball. The steps are crowded with a moving mass of people on pleasure bent; clowns, columbines, musketeers, etc., are whispering soft nothings to each other, while a Watteau shepherdess is seen in the act of falling fainting into the arms of a noble wearing a Henri III. costume. In the foreground, as if leader of the mad frolic, stands a man in a mask and disguised as Mephistopheles, who invites those present to the pleasure of the dance and the joys of nocturnal revels. This window has a very curious effect.

Another interesting specimen is the luminous ceiling called *The Arts* (Fig. 13), after Hippolyte Berteaux, which decorates the Hall of Festivities of the firm of Dufayel, at Paris, and into which MM. Hubert & Martineau have introduced shades that are admirably clear and mellow.

The triptych (Fig. 14), executed by the same artists for the firm of Vaissier, of Roubaix, is, as can be seen, very cleverly conceived. The three Hindoo scenes which it represents are perfect in their interest of subject, richness of costumes and delicacy of execution. One can easily imagine that this painting on glass would be very difficult, if not impossible, to render in adjusted stained glass.

Our promenade among modern colored windows of French production would be incomplete if we failed to cite a few specimens of that symbolist school which has been so highly praised by some and decried by others during the few years since it was first heard of. Let us, at the outset, express our indebtedness to M. Bing, who has obligingly allowed us to reproduce them. Whilst they are not beautiful in the absolute meaning of the word, they are certainly interesting on several grounds.

In Fig. 15 we have "The Woman at the Spring," the cartoon for which is by the painter Besnard. A young woman with florescent hair is drinking at a spring which falls in a cataract. At her feet is a lake into which the water flows and on which a swan is gliding. In the distance, a plain, some brown mountains and a pale sky.

Fig. 16 shows us a mantelpiece consisting of some queer vegetation and marine animals all twisted and twined. Above, one perceives a vague, stormy sky. Although it is rather difficult to grasp the painter's meaning, the effect is nevertheless very striking, thanks to an ingenious method of lighting from behind.

Fig. 17 comprises two enfantine pictures in one. The decoration is not at all complicated—a few trees, a chair and a small boy. The design is very primitive, but the artlessness of the impression felt makes one smile and forgive.

Much the same may be said of the window illustrated in Fig. 18, which represents, perhaps, the courtyard of a boarding school, shaded by big trees. One observes an indefinite sort of house, the figures of some pupils and, in the distance, the cap of a sister of

mercy, who is praying against the doorway, heedless of the laughter and the gambols of the girls under her charge.

The two last windows here pictured (Fig. 19 and 20) are by M. Ibels, the most "modernist" painter that exists, even though by modernism we mean the widest possible conception of the art of drawing. These two curious landscapes are fantastical to a degree, and only of very relative interest. It would be unwise on our part to make any great effort to fathom the allegory of these productions; not only would it be a tough task, but one would run a serious risk of not correctly interpreting the artist's idea. We, therefore, leave full latitude to our readers' imaginations.

Does any conclusion force itself upon us after this survey of the present state of the art of colored window making in France? Perhaps so. It seems to us that, with the mass of examples accumulated, instead of wishing to innovate, as appears to be the aim of the last-named artists of whom we have spoken, eminently satisfactory applications might have been made of the said examples, and this without adhering rigidly, as is generally done, to a sobriety of tone which almost amounts to the absolute exclusion of color. It is very evident that, with the resources of ancient works, which furnish the best of teaching, old methods might have been utilized with success, provided that the rational study of the discoveries and weakness of our forefathers allowed of the formation of a clear idea of the art of glass staining and the extraction of precise definitions concerning the absolute accord of the composition as a whole, the harmony and power of the coloration, the simplicity and fidelity of the design. It is, in fact in this direction that we must turn. The creation of the cartoons should be confided only to artists who are thoroughly aware of the difficulties as well as of the resources peculiar to the art. Knowing that lead emphasizes and exaggerates the least imperfections in the design, we can form an idea of the true cause of the singular appearance of some of the specimens referred to in this article.

As the master glassmaker Gaudin tells us, the cartoon is the veritable soul of the work, and he adds that "to an excellent cartoon, to a brilliant coloration, must be united an able interpretation to obtain a perfect stained window. This is beyond doubt. But this science of execution becomes a dead letter from the moment it ceases to rest upon necessary and constitutive qualities, and the cleverest man in the world, if he tries to rehabilitate by force of virtuosity a poor design of an unfortunate coloring, will certainly waste his time, and in most cases only succeed in accentuating the faults he would have liked to remove."

This, then, is the logical conclusion which flows from our brief examination of this subject. In France the art of stained window making is brilliant. The glassmakers have acquired a high degree of skill,



Figure 19

Designed by Ibels.



Figure 20.

Designed by Ibels.

but we are lacking in artists whose care and duty it is to prepare the cartoons. Apart from two or three men of first-rate talent whose names recur again and again, there are only mediocrities and some who are able men, but do not know how to give their ability the suppleness necessary for vitrified interpretation.

Yet we must not be too dissatisfied. France, if she does not hold the first place in this branch of art and industry, is at all events well to the front, and happily our artists have not said their last word. Art is the intellectual life of a people, and ours is not by any means at its last gasp.

René de Cuers.

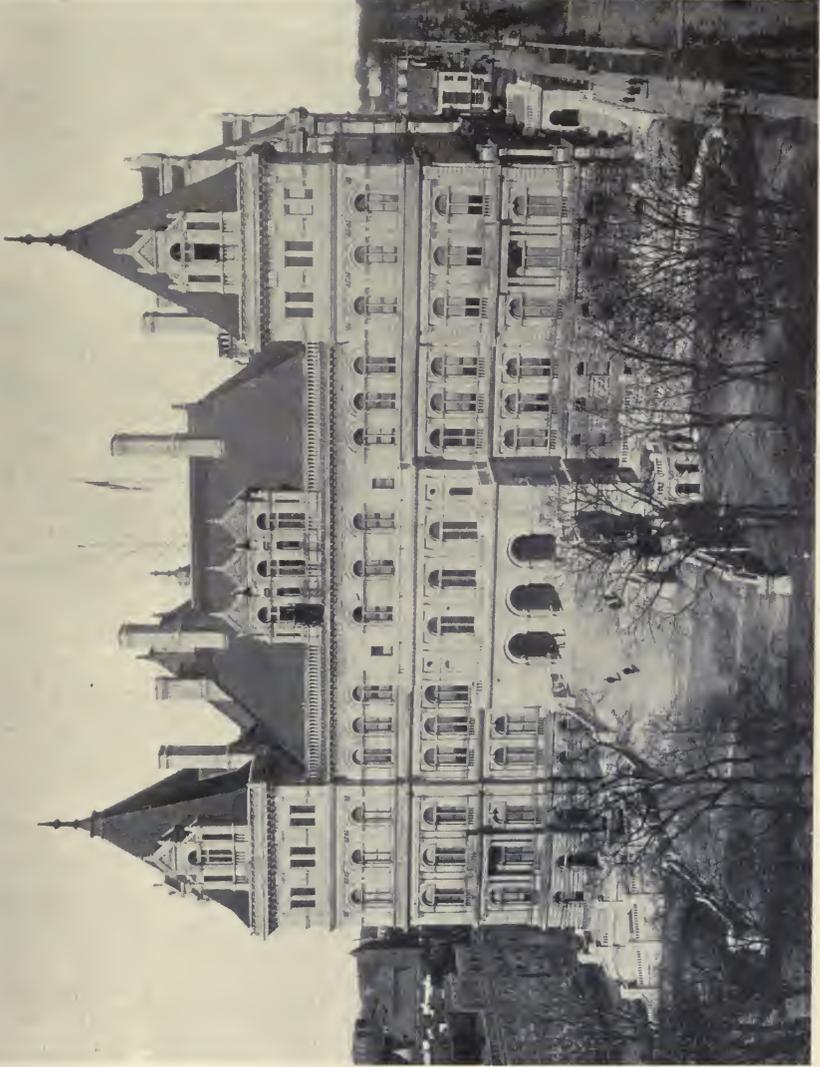


ON THE GRAND APPROACH.

THE NEW YORK CAPITOL BUILDING.

THE completion of the New York State Capitol building was a theme which the tourist was prone to ridicule for more than a score of years. Travelers from Europe came to Albany and returned there again only to find another story added to the edifice, whereas it was expected to find it finished. Although the construction of so large a building was in other ages the work of centuries, as the history of many a cathedral shows, still thirty years in these days is considered a long time, in the face of the modern mechanical arts and the money of a rich state with its seven million inhabitants to boot. The building is now practically completed, but although it is so considered, in reality it remains to be finished by the erection of a tower or dome. Nearly thirty million dollars have been spent upon the edifice since the first shovelful of earth was turned that number of years ago, or to be accurate, July 7, 1868, and as the building has all the parts needed for practical purposes, no new governor will feel like spending money during his administration upon the adorning parts. The erection of the tower, a necessary feature to complete the ensemble, is, therefore, never mentioned.

At least ten governors and as many legislatures have had a hand in the erection of New York's Capitol, each finding it in turn a bank of patronage upon which to draw; but with the incoming of Governor Theodore Roosevelt this was ended, for Governor Frank S. Black directed the last operations upon the building, and by his en-



NEW YORK STATE CAPITOL, ALBANY, N. Y.

ergy pressed the work with more noticeable alacrity than any of his predecessors. It was during his term that the magnificent eastern, or front approach was rapidly completed, rows of hideous sheds removed, a beautiful state park laid out. The work of the two sides and the rear façade, large affairs in construction, were started and ended by continuing the work during the winter under housing carried upwards forty feet, and by working a second gang at night. Sunday work was suddenly prohibited when certain societies raised objections. No matter how much patronage the building afforded to state officials, no investigation commission ever found that the money was misused, save in connection with the ceilings of one or two rooms, so that with the handling of close to \$30,000,000 and the almost constant employment of 1,200 men for that long term the record stands without that sort of blemish.

A scandal connected with a building does not necessarily interfere with the fine appearance of a building, so that considered as one of the world's works of art there may be something that interferes far more with an edifice than the robbery of its funds. In this instance such has been the case to a greater degree than has been agreeable. For art, it might have been better had it been a scandal instead. The memory of a scandal may die at some date, and during all that time and forever after the building will stand as a high representation of a work of art; but when a series of architects handle the one large building, and each in turn cannot overcome the inclination to stamp his own individualistic idea upon it, then there is something the matter that may never be eradicated by time. This happened to some extent in the building of this capitol, and the best critics condemn it accordingly, yet find any number of features which deserve the highest praise. Taken apart, these individual conceptions would be creditable to any architect, but, viewed together, the effect is disastrous.

Were one to consider this building along with others, its cost would place it among the foremost were the valuation of contents disregarded, for a state building does not permit the same amount of elaborateness of decoration as does a secular institution, or the palace of a king, where fabulous prices may be paid for objects not necessarily included in the design. Thus it is that a contemplation of building alone places this one among the few that have cost over twenty-five million dollars. As it has been said, that the Capitol represents to a fair degree the vast sums appropriated, it stands as a fact that the new Capitol is a building of exceptional interest.

One hundred and two years ago Albany was designated the state capital, and the centennial was fittingly celebrated on January 6, 1897, according to a legislative act, and a ball was given in the state armory on an elaborate scale that evening. The first provision for

the state's capitol building was made in 1803, when the Common Council of Albany adopted a resolution requesting the legislature to pass an act authorizing the erection of a state house. A committee composed of John Cuyler, Charles D. Cooper and John V. Yates, was named to prepare maps and a petition, to report the estimated cost, etc. Their report was submitted March 7, 1803, and the building was authorized by the act of April 6, 1804. The capitol commissioners named in this act were Philip Schuyler Van Rensselaer, John Taylor, Nicholas N. Quackenbush, Simeon De Witt and Daniel Hale. These names appear upon a tablet of stone which now forms part of the highest part of the wall in the grand western staircase, though the lettering is nigh illegible from age.

The act passed was characteristic of the peculiar proceedings of those days. The bill for the erection of the Capitol was entitled: An act Making Provisions for the Improvement of Hudson River Below Albany and for Other Purposes. After providing for some minor improvements in the river at Troy and Waterford (above Albany) it appointed those above-mentioned as a commission, and further enacted that \$12,000 be raised by lottery, which was a common thing in those days, and a popular method for raising funds instead of resorting to taxes, until the practice became corrupt and was abolished by the act of Legislature in 1821.

The first building cost \$110,688.42. Albany city paid \$34,200; the county paid \$3,000, and the state appropriated \$73,485.42. The site chosen, now Capitol Hill, was then known as Pinkster Hill. The corner stone was laid on April 23, 1806, Philip Schuyler Van Rensselaer, then the mayor, being master of ceremonies as mason. The edifice was equal to the finest in the state in those days, and was first used on November 1, 1808, on the occasion of a special session.

As the growth of the state had rendered the capitol building of 1808 too limited, and as it did not afford a single committee meeting-room, the subject of a new one commenced to be actively agitated about 1850; but no action was taken until April 24, 1863, when on motion of Hon. James A. Bell (senator from Jefferson county) the subject was referred to the Capitol trustees and the Committee on Public Buildings. In 1865 the senate appointed a committee of three to report propositions as to whether to remove from Albany, and great was the discussion engendered by the feeling in various sections of the state. Albany decided to contribute Congress Hall (hotel) block. This offer was accepted, and an act of May 1, 1865, authorized the erection of the new capitol. Excavation was commenced on July 7, 1869, and on June 24, 1871, the corner-stone was laid with imposing ceremonial. Addresses were made by the Hon. Hamilton Harris (now living in Albany, and counsel for the N. Y. C. & H. R. R.) and Governor John T. Hoffman, while the Hon. Will-

iam A. Rice read aloud a list of the articles placed in the copper box. The masonic part of the ceremonial was conducted by Most Worshipful John Anton, Grand Master of the Grand Lodge of the State.

The plans submitted by Thomas Fuller were chosen on August 12, 1868, and they have been partially carried out. His original model of the building was an elaborate affair, with its dome towering higher from the floor than a man's head, and was perfect in its details. It called for a building in a rather free French Renaissance style the dimensions of the base nearly square, a front elevation of three full stories and a high dormer, with an exposed basement to the rear, although the land slopes to the extent of showing a sub-basement. The building was to be built of the best of granite, and a high tower was to arise over the central front, with four abbreviated towers at the corners. About the time that the building was carried to the second story Mr. Fuller removed to Canada, and on Sept. 12, 1876, Cyrus L. W. Eidlitz was named as his successor.

The plans were allowed to be changed to conform to the desire of Mr. Eidlitz, and he modified the exterior as far as he might without departing from harmony in treatment. The part constructed under his supervision was highly ornamental (and he planned a different style of approach), which included the construction to the highest point of the front elevation. The noted Richardson was the third architect to exert an influence. At the time of his appointment, associated with Eidlitz in the work, he was regarded as the great rising genius in architectural matters. His advice was advantageous, as he left an imprint most estimable on all that he had to do. It was while they were in charge that the two main rooms were under discussion. Mr. Eidlitz devoted himself to the northern side of the building, where is situated the Assembly Chamber, while Mr. Richardson worked out the plans for the southern side, containing the Senate Chamber, a work that will stand among the fine monuments to the glory of his achievement in this country. The grand western staircase, the finest of the kind in America, was the conception of Richardson, and his reputation would be safe if based on this alone, for it is a noble piece of work.

On March 30, 1883, Governor Grover Cleveland, under a new Act, appointed Isaac G. Perry as commissioner of construction, he being the sole one in charge. The position was equivalent to that of state architect, for under him plans for nearly forty armories and a variety of state buildings have been drawn. Politics failed to interfere with him for sixteen years, for though he was a Democrat he continued to act under Governors Morton and Black. He modified the design of Richardson and added many features. To him may be attributed the eastern (front) approach, a work which required nearly eight years to construct and the cost of several million dollars. The

State Library portion is his. Under his charge the greater part of the carving of the interior was executed, for this was left to be done during the last ten years.

In February of 1899 George Lewis Heins, of the well-known and respected firm of Heins & La Farge, of New York city, was nominated by Governor Roosevelt to succeed Mr. Perry. The same was hotly debated in the Senate up to Washington's birthday, when by a strict party vote of 26 to 21 the nomination was confirmed. The governor's chief reason was to obtain the services of a younger man, for it was a cause for marvel for some years how Mr. Perry could perform his arduous duties so thoroughly at his advanced age.

The soil at some depth below the Capitol is composed of quicksand, and this is one reason why at intervals of a few years there is a hue and cry from New York and other cities deprecating the location of the Capitol, warning its official occupants of danger lurking under ground, and advising abandonment of the building for a new one to be erected in another city. The interior walls have shown some defects in one part, near the staircase located in the northeast corner, but this was not extensive and was due to uneven distribution of weight above. This portion was replaced a few years ago and was an unnecessary cause for alarm, but created the conviction that a stone tower could never be added to the weight borne by the front of the building. The stonework of the tower, which had risen twenty feet above the building, was stopped, and two years ago it was taken down.

In order to provide a foundation suited to the size of the immense building at the crest of the hill leading from the Hudson, a thick concrete bed was formed equal to one large stone underneath the entire building. Excavation was made to the depth of 15 43-100 feet below the sub-basement, which because of the slant of the land at the western end is much below the surface. The concrete formed a bed four feet thick, and directly above it is the sub-basement, with a height of nineteen feet and four inches. This part of the building contains 935,000 cubic feet of stone, and the walls, from 32 inches to five feet thick, contain 11,000,000 brick. The foundation which was prepared for the tower is 110 feet square at the base and tapers to 70 feet square at the basement. In this sub-basement are 144 separate apartments formed by thick broad arches, and it is here that room is provided for electric light machinery. At first the heating plant was operated here, but there was fear of explosion, so adjacent property on a side street was purchased, whence a subterranean conduit conveys the hot air for about four hundred feet. The base of the building is 155 feet above the level of the Hudson, in which direction the ground slopes fifty-one feet in the park until State street is reached, which broad thoroughfare stretches directly from the park



THE MAIN ENTRANCE.



THE ENTRANCE LOBBY.

before the Capitol to the shore of the river. Other buildings of the city seem to be dwarfed by the Capitol as it is seen from a distance down the river, and to gain an excellent view the tourist takes the elevator on the Assembly side to the floor above the Chamber, and then by mounting 110 steps (8 in. tread) the base of the proposed tower is reached. This places one at a height of 224 feet, and the tower, as now planned, will, if built, reach a height of 390 feet, and be constructed of iron.

The main approach is from the east, the river side, and it extends in a graceful flight of steps for 175 feet from the building. The long stretches of balustrade from landing to landing are each made in one piece of granite. At all advantageous points carving of the finest kind is to be met. Having ascended 77 steps, one stands upon a broad plateau before the entrance, almost on a level with the roofs of handsome brownstone houses on the neighboring avenues. The lobby ceiling is of groined granite blocks, the walls of polished stone, and two rows of eight glistening red granite pillars form a noble sight.

Turning down the corridor, to the left, one reaches the Executive Chamber, while the corresponding front corner of the building is occupied by the Secretary of State. The former room is entered through a private office, except on state occasions. Here two clerks, appointed in the days of Grover Cleveland, demand the business of the visitor. Most persons are allowed to enter and stand for a few moments in the corner of the room, whether the governor is engaged in business or not, for when private or pressing matters are on hand he retires to a suite of rooms ranging from the Chamber to the wall of the entrance lobby. The door to this suite is concealed by the panel work of the richest mahogany. Ever since the days of Governor David B. Hill, a private staircase has been in use for the governor to reach the street without passing through the public way, where politicians and office-seekers are wont to haunt. The outer door was originally intended as a window, but it is reported that the shyness of Governor Hill was accountable for its transformation into a modest door with the sole key in the pocket of the executive. No one else has been known to enter here.

Oil portraits of Washington and of Lafayette, measuring about sixteen feet in height in the frames, grace the walls. A large fireplace, in the centre of the wall opposite to the windows on the front, is an ornamental feature. The governor's desk is a large affair, placed at the centre of the front wall, and writing at it he faces the fireplace, while the door for visitors is diagonally to his left in the same wall he faces. His secretary has a large desk nearer the south-east corner, to his left.

The building is to all appearances constructed in a square, but it

extends 400 feet from east to west, the length of its side, and measures 300 feet across the front, the north and south line. Approximately in the centre is a court with 92x137 feet for its dimensions. The highest windows overlooking this court are ornamented by carvings of the coat-of-arms of the earliest settlers of the state, among them being those of the Clinton, Jay, Stuyvesant, Livingston, Schuyler and Tompkins families, and over the selection there has been much discussion. The four pavilions ornament the corners of the building and rise to a height of 125 feet above the water-table. They terminate in red terra cotta, with a pinnacle of the same, and the one on the northeast corner was once shattered by lightning. In the southern corner of the building is a fine staircase of Moorish design and one of equally fine appearance, but of Gothic design, corresponds with the former in its location at the front of the Capitol.

The governor's suite of rooms not only reaches along the front to the lobby, but extends to the centre of the building on its left side. Here one finds a room devoted to his military secretary, to his pardon clerk, and other members of a large corps. In the corner of the building back of the Executive Chamber is the department of the Attorney-General and his deputy. Then one comes to the rear entrance, opening upon a park, while directly across the hall is the commencement of the Grand Western Staircase, as it is styled. Near the other rear corner, the northwestern, is the department of the State Board of Health, and in the corner itself and along the side of the building is the Department of Excise. The remaining corner, with a dozen connecting rooms, belongs to the Secretary of State, and here many papers are filed.

Four corridors cut the four sections enclosing the central court, that is, the four main portions of the square building are dissected by a corridor passing through the centre. These corridors originally continued to the exterior, thus obtaining light, but the increase of state commissions crowded the building, and in order to gain room the end of each corridor was made into a room. The result is that these corridors, although tiled elaborately, the sides panelled with marble and stone of various kinds and polished highly, are not attractive stretches, for the light comes from transoms only. The four corridors, arranged similarly on several floors, are therefore simply long, narrow vistas, with numerous doors giving upon them. On the floor just described seven committee rooms open from the corridor on each side of the building and occupy the space to the interior court, where light is derived.

Above this is the principal floor where are located the two legislative halls. The Senate Chamber is on the southern side of the court, and, as was said, was treated by Richardson. It measures 60x100 feet and is fifty feet high. The room presents a square appearance.

The walls of the Chamber are of selected Mexican onyx, highly polished. The ceiling is of carved mahogany, the freize, perhaps twenty feet in depth, is of rich gold, and through the opalescent glass a subdued light falls which adds to the glorious scene, for it is one of the finest rooms in the world.

The balconies, which completely fill the two opposite sides of the Senate Chamber, have balustrades of diminutive onyx pillars. Two arches divide each front of the balcony into three openings and the arches are elaborately carved. On either side of the entrance from the lobby is a fireplace, reaching to nearly the height of the ceiling, or fifty feet, with openings large enough to admit a man standing upright. Opening on the Chamber is the room of the clerk of the Senate and the Lieutenant-Governor's private office. This suite brings one to the corner of the building which is occupied by the senate finance committee. The lobby extending alongside the interior court and forming a hallway from the Senate Chamber, leading to front and rear of the building, was originally a corridor, the broadest and finest in the building, with a row of sandstone columns running through the centre and forming a beautiful vista. This place is used as a lounging room for the senators and visitors. It is richly carpeted, large paintings adorn the walls, and costly curtains moderate the light from the court. The sum of \$20,000 was appropriated to furnish this lobby, aside from all constructive work.

Turning out of this lobby to the right and pausing at the centre of the rear of the building, one comes to the State Library. About the doorway one finds the most elaborate carving in the building. The room's dimensions are about the same as those of the Senate Chamber. There is abundant light from the rear, looking out upon a small park. The ceiling is fifty feet above, decorated in the most delicate of coloring, designs of cherubs, floral pieces, and symbolic ornamentation being finely executed by hand, painted upon a sky-blue ground. Two galleries, on the sides between the entrance and rear wall, show that the room has a height of three floors of liberal space. A few marble busts, portraits of men of note in the state fifty or more years ago, and cases containing the rarest of relics in the building, are a few of the features of the room. Adjoining, and occupying the northwest corner of the building, is the law department, containing about 25,000 volumes. In the passage between hang several frames holding priceless Indian wampum belts, not long ago the property of the Six Nations.

Continuing the walk about this floor of the building, one arrives at the Assembly Chamber, corresponding in position to that of the Senate, but a much larger room, for it covers the space from the northern wall to the court, doing away with any corridor or lobby paralleling its side as in the other case. The dimensions are 84x140



GRAND WESTERN STAIRCASE.



IN THE GRAND WESTERN STAIRCASE.

feet, including the area covered by the galleries at the east and west ends. Four great columns of polished red granite, four feet in diameter, sustain the ceiling. Until removed about six years ago, the original ceiling of carved and decorated stone was the largest groined arch in the world, with its keystone 56 feet above the well, as the place where the members sit is termed. On the northern wall was a painting entitled "The Flight of Evil Before Good," and on the south wall was one called "The Discoverer." The position was about fifty feet above the floor, over the higher row of windows. Each measured 15x40 feet, and they were the work of the late William M. Hunt. For their execution he received \$15,000. Unfortunately these were painted upon the stone, and when the ceiling of this room was altered they were doomed. Cracks were discovered in the stonework of the ceiling. Everybody became greatly alarmed and the room was practically condemned. For one year, in an effort to obviate the danger threatening, an enormous weight was carried to the attic above the ceiling to balance and keep the pressure even. Water pipes were also placed there to keep the stones at even temperature and moisture. Science could not devise a means to save the handsome ceiling, and at last several hundred thousand dollars were appropriated to remove it and for the construction of a safer one. It was in this instance that a scandal arose. Instead of the carved Mexican mahogany as called for in specifications, a number of papier maché panels were employed, which at the great distance looked about as well as the real—in fact it took an expert to tell the difference. The new ceiling is an eyesore to good taste. Art critics believe that the money would be well expended were another introduced. The four immense columns call for an arched ceiling, and a flat one is decidedly out of place, no matter how much money was paid for it. No amount of money spent on a flat ceiling may make amends from an architectural point of view, for it cuts the arches and so shows on the face that it is a makeshift of the worst description.

Having spoken of the principal rooms, it will not do to overlook the Grand Western Staircase and the carving. It is the delicacy and appropriateness of the carving, its execution and conception, that are objects of much attention. This staircase commences its elaborate detail of design at the basement, which is really one of the principal floors. Two distinct flights of steps ascend to a platform, then divide again at right angles; ascending half way between floors to another staging the staircase is again divided, and thus it is continued, so that at each platform there are two flights ascending and two descending, four flights meeting at each level.

Two or four heads are carved on the capitals. Each column has its distinctive feature, as for instance the military pillar with its head of Gen. Grant and other great officers of the Civil War. Mytho-

logical heads will peer from one capital, while from another the faces of great inventors look down. Five women are honored by heads carved in this manner. They are Harriet Beecher Stowe, Susan B. Anthony, Frances Willard, Clara Barton and Elmira P. Spencer.

A design carried out in unique manner is the choice of the coat-of-arms of the oldest cities of the state as ornaments for the columns of the side porticos. There is hardly any space left upon the main approach that is not carved. The American eagle and turkey of life-size are ornaments on the face of two large granite blocks in this approach, and heads of a buffalo and of a lion, the size of nature, give



ON THE WESTERN STAIRCASE.

dignity to the terminals of the driveway under the front flight of steps. Some of these stones weigh 26 tons. Mr. George D. Brines, lately of Providence, R. I., and who sailed the last of 1898 to spend a year or more in study abroad, was the designing sculptor of a large proportion of the finest work. Stone carvers were paid at the rate of twelve dollars a day to execute the same.

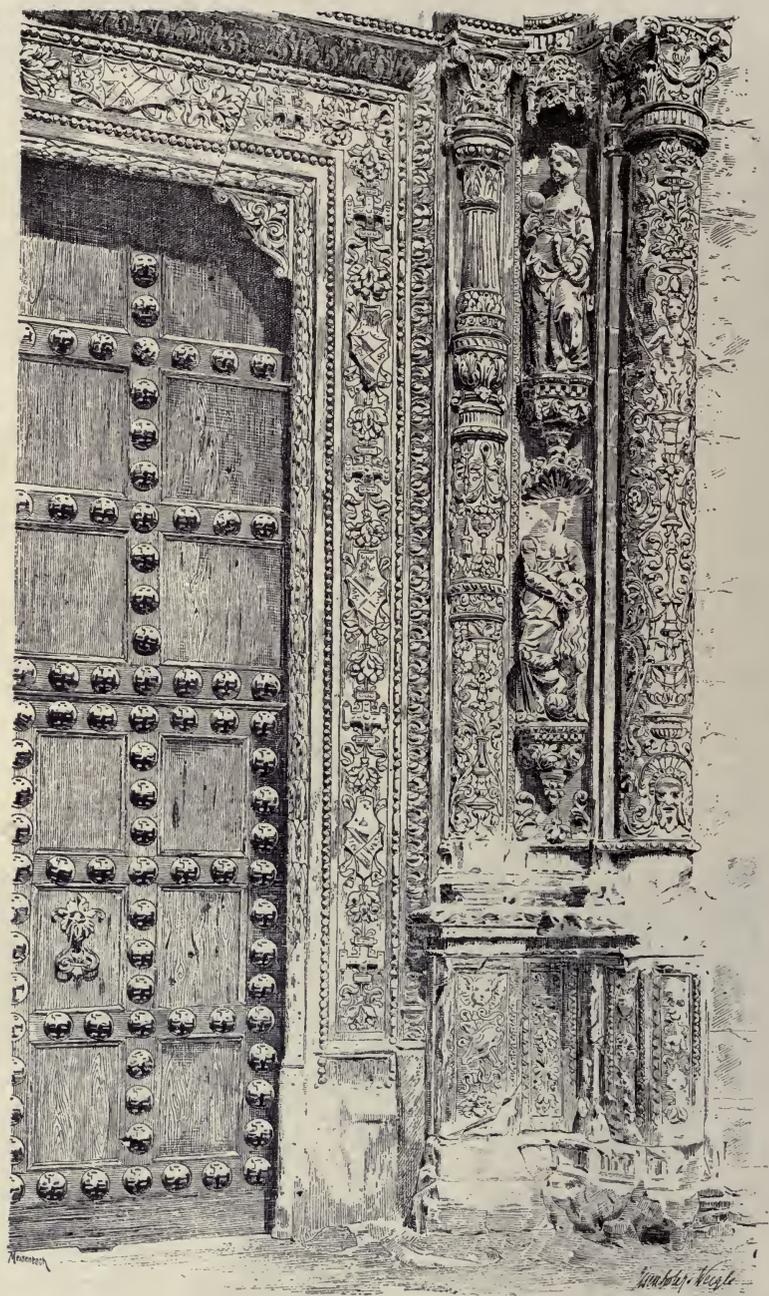
The electric system is the finest ever installed to light the exterior of a building. There are twenty-eight electroliers, and the cost of many of them was close to \$4,000 apiece. In order to have the wires concealed, borings of 28 feet were made through the stone to reach those on high pediments. The cost for these exterior lamps was about \$70,000. The designs employed are the state coat-of-arms in high relief, over a foot in height, and an eagle surmounts a prominent pair, for the designs differ throughout in couples.

The removal of the State Library from the capitol is a question that will be a matter before the public for some years until a proper edifice is completed for the University of the State of New York, to contain the library, all of its many departments, and a fitting state museum, now located in three buildings at Albany. On the night of Jan. 23d of this year, a bill was introduced with this idea in view. The amount asked for was \$400,000, but no one believes that this will do more than prepare the way for an edifice in keeping with the Capitol, especially as it is definitely settled that the location for it is directly behind the other, separated by a park of little more than two acres. The two city blocks regarded as necessary for the purpose are in the heart of the best resident section of the city, bordering on State street and Washington avenue. From a close examination of the assessment rolls it is found that this property is valued at \$286,-100. It is likely that the new building will be construed as was the Capitol, by expecting to complete it with an appropriation amounting to one-fourth of the amount expended in the end. If the new commissioner, Mr. Heins, is to design it, it will be a shame if he is not given full liberty to make it the finest library building in the country. It may be that this was Governor Roosevelt's idea when he made the appointment in February. It is admitted by politicians on all sides that this new edifice is a necessity, as it is impossible to find room in the Capitol for needed committee rooms and places for many commissions, new ones being added each year. Albany will then have reason to speak of its fine public buildings.

Cuyler Reynolds.



IN THE COURT OF APPEALS.



DOORWAY, HOSPITAL OF SANTA CRUZ.

Toledo, Spain.



MAISON AUX MASQUES.

Rome, Italy.



ECOLE, NORMALE D'INSTITUTRICES AT CLERMONT- FERRAND, FRANCE.

E. Camut, Architect.



DESIGN FOR ST. PETERS CHURCH.

Frankfort.

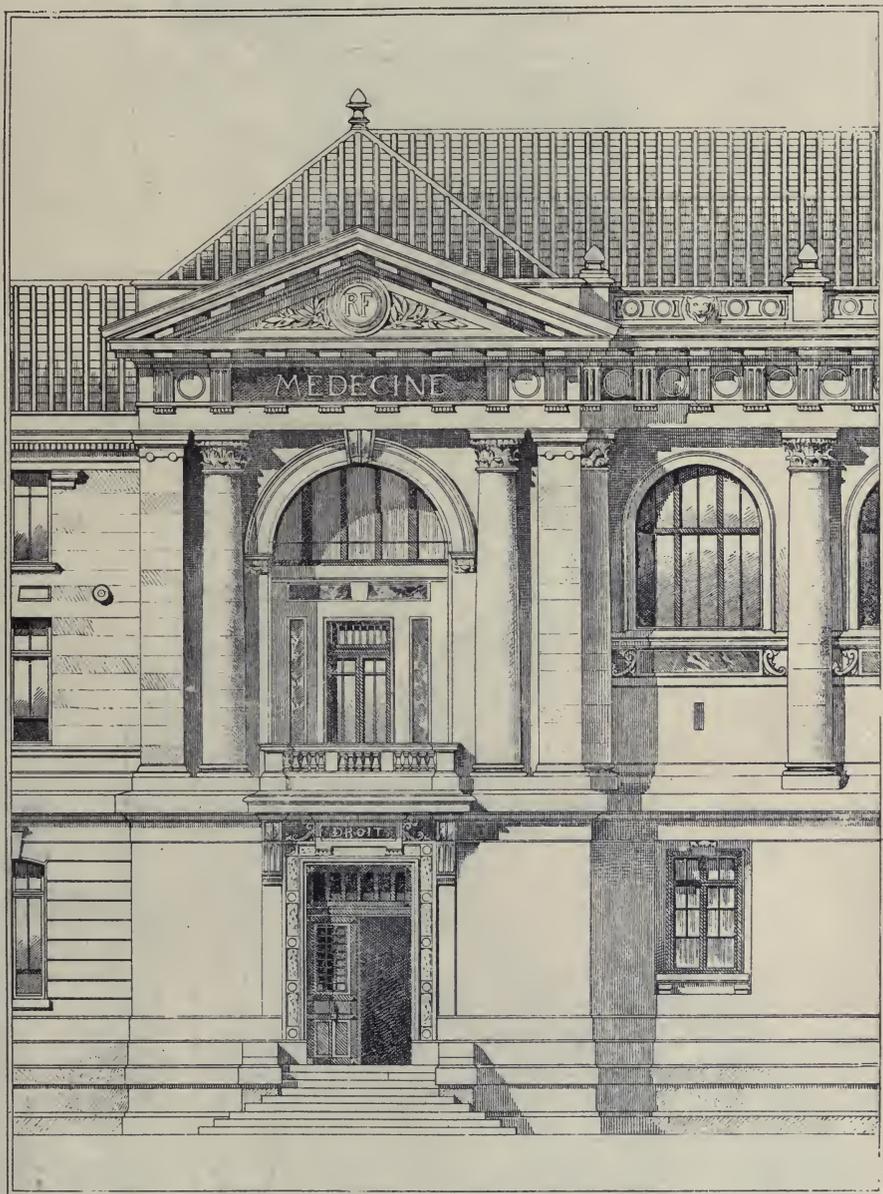
John Vollmer, Architect.

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OSSUARY · CHURCH · OF · S · MILIAU
CUIMILIAU · BRITTANY

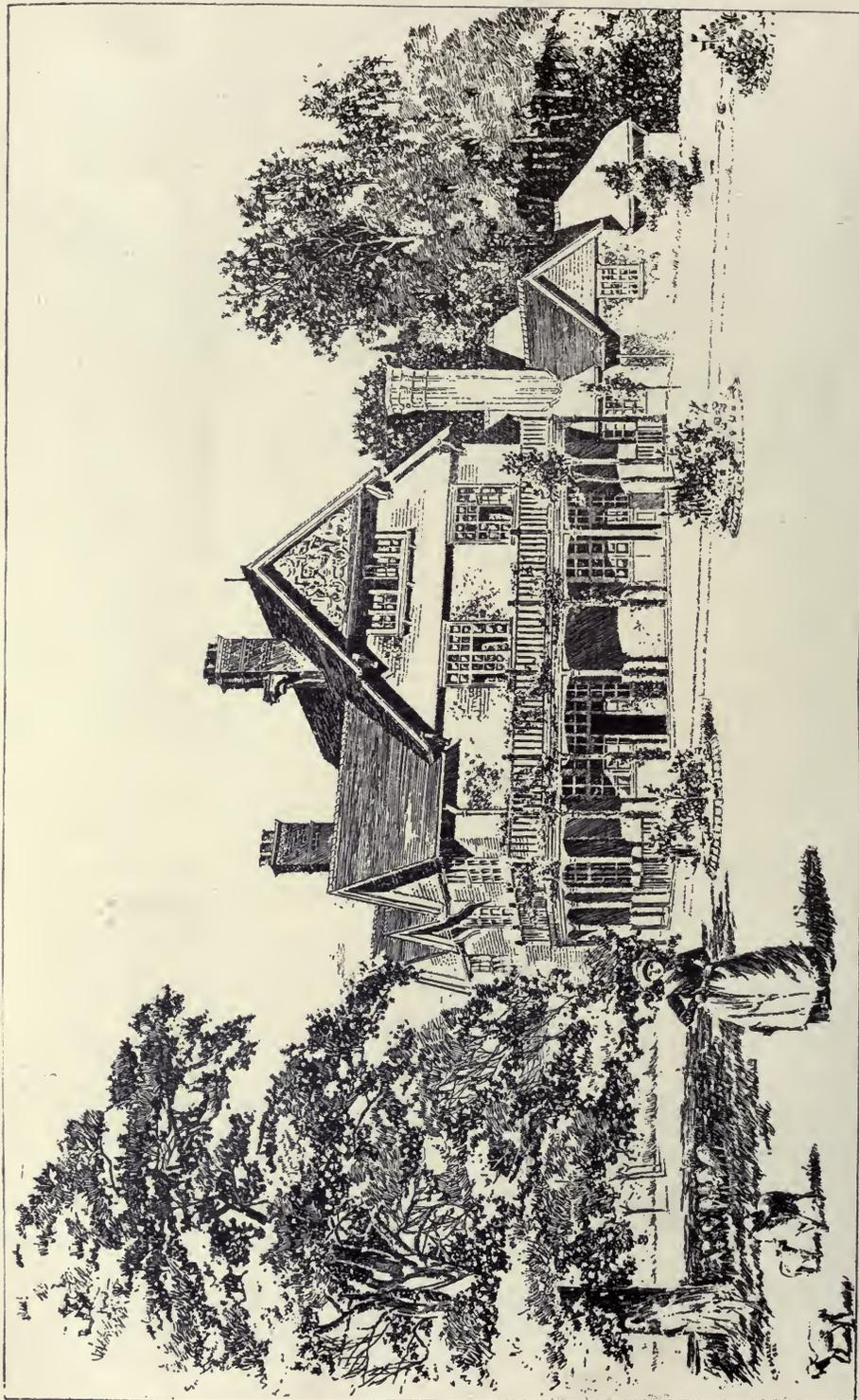
RESTAURATION · C. SMITH · DEL.
CUIMILIAU · BRIT. · 1890



ECOLE SUPERIEURES.

Algieres, Africa.

M. Dauphin, Architect.



HOUSE AT STAPLEFIELD, SUSSEX.

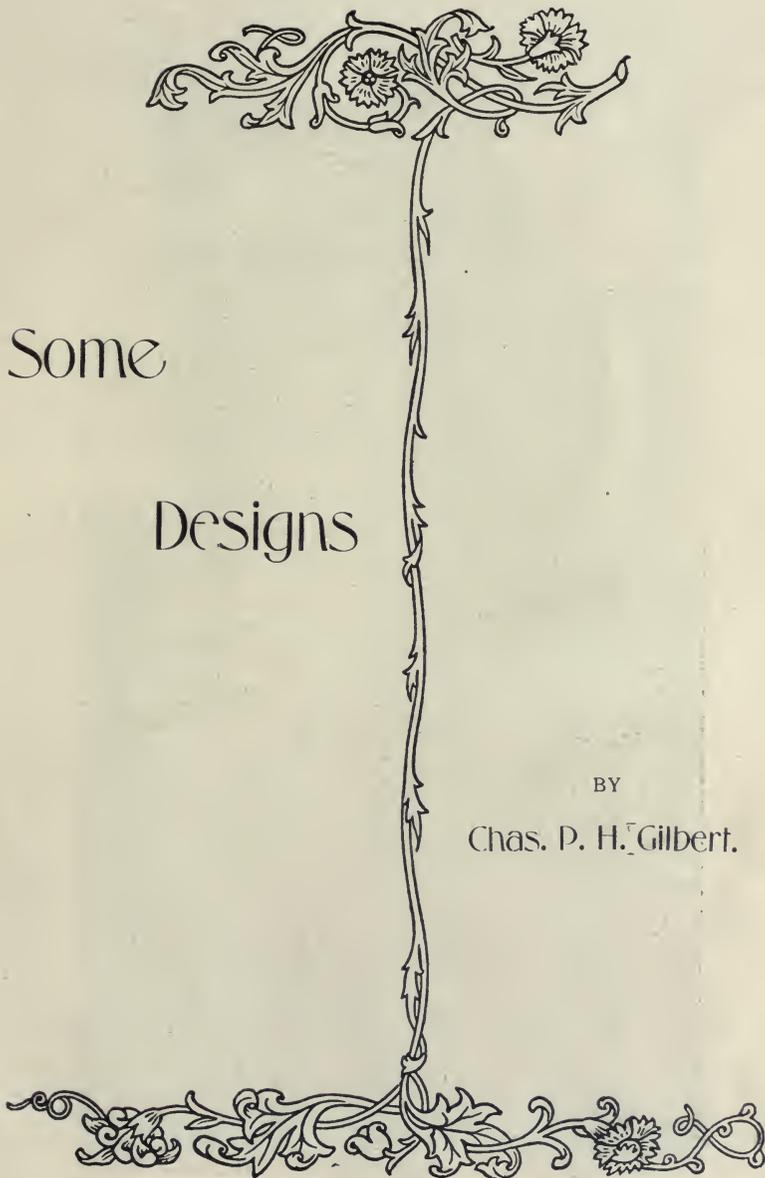
F. T. Baggallay, Architect.

Some

Designs

BY

Chas. P. H. Gilbert.





THE CUSHMAN BUILDING.

North corner Maiden Lane and Broadway, N. Y. City.

C. P. H. Gilbert, Architect.



RESIDENCE.

Seventy-second Street and Riverside Drive, N. Y. City.

C. P. H. Gilbert, Architect.



THE CONVERSE RESIDENCE.

No. 3 East Seventy-eighth Street, N. Y. City.

C. P. H. Gilbert, Architect.



RESIDENCES.

Seventy-seventh Street and Riverside Drive, N. Y. City.

C. P. H. Gilbert, Architect.



RESIDENCE.

Seventy-sixth Street, near Riverside Drive, N. Y. City.

C. P. H. Gilbert, Architect.



RESIDENCE.

Seventy-fifth Street, near Riverside Drive, N. Y. City.

C. P. H. Gilbert, Architect.



RESIDENCES.

Seventy-fifth Street and Riverside Drive, N. Y. City.

C. P. H. Gilbert, Architect.



THE FLETCHER RESIDENCE.
Seventy-ninth Street and Fifth Avenue, N. Y. City.

C. P. H. Gilbert, Architect.

STONE IN AMERICAN ARCHITECTURE.

THE place that stone must occupy in our future building, in city and country, must not be measured by the old standard of Fifth Avenue and such like streets and their elegances. The rubbed slab of brown sandstone set up edgewise and attached after a fashion to a wall of brick behind it has been instrumental in developing perhaps the most unintelligent style of street architecture of modern times. Nor was the stupidity of the architecture in question much relieved by the use of the same stone in more solid blocks, as in the retaining walls and facing of areas, in the stoops, or even in the columned porches by which the stoops were crowned. All partook of the same spirit of dull, flat, dusky-brown monotony; and there is no wonder that there was a reaction and that other materials than stone seemed to be identified with any artistic reform. As the character of an architecture must be fixed, first or last, by the treatment of the great wall with its openings—so the universal employment of the smooth, rubbed slab, and moulded strip, set the pace, as it were, for wall surfaces of other material, and the wretched fashion came in of considering the city street-front as being of necessity the insignificant, overworked and underthought contrivance with which we are too familiar. One great reason why other materials than stone have been in demand of late years has been the feeling of architect and employer alike, that so much flat and semi-polished uniformity was a thing out of which no architectural thinking was likely to grow.

All this while the books were telling us that stone ought to be used in a very different way; that, if stratified, it ought to be laid on its quarry-bed, or nearly as nature laid it; and, therefore, in smaller, more diversified and slightly more irregular pieces—irregular in color and in texture, but not of necessity very visibly irregular. And, if igneous rock may be handled and placed more freely, there was, ready at hand, the witness of those minor communities scattered about the country and situated in the neighborhood of stone quarries of importance; a witness which could not have failed to have changed our views of the proper use of stone had we listened to it. Let anyone go to see curious and interesting New Bedford, once the town of whalers, now the town of cotton manufacturing. There the visitor will see big granite monoliths set up on end to serve as gate-posts leading to simple little domestic "dooryards." Moreover, he will see the earth of these same door-yards kept in place by retaining walls, built, each, of two or three courses of really huge blocks of a most beautiful, purplish-red granite, roughly dressed, of course.

but squared neatly enough, and set with a certain accuracy. He will see the foundation and cellar walls, or, as it is often called in Massachusetts, the "underpinnin'," even of small, low, shingle-covered houses, faced, and evidently composed, as the retaining walls are composed, of huge blocks of the same hard and perfect stone. It is quite clear that the builders of these houses, and the layers-out of these little front gardens, three-quarters of a century ago, when New Bedford was still a small town, living mainly by whale oil and spermacetti, cannot have had in mind the same architectural ideas which at the same time and soon after drove the builders of houses on city avenues towards monotony; and, indeed, we see that it is not monotony which the granite workers obtained. It is really most attractive to see in a simple, not over-rich, and, in a sense, unsophisticated community, such free and easy use of what is to most people in the world a somewhat rare and very costly device for building. The megalithic instinct, which impelled the Imperial Roman builders at Baalbec to put sixty foot rocks into the retaining wall of a temple-platform was there, in the New England seaside town; and there was also present the love of the vari-colored, many-lighted surface itself. The same interesting use of granite will be found in other Massachusetts towns, the names of which occur readily to one's thought. At Fall River, in the foundation wall of a frame house, there is a stone thirty-two feet long, if memory is not at fault; but the granite itself is seldom as beautiful in its varying tints as that which is so common in New Bedford. The granite at Quincy, for instance, is a bit monotonous in its uniform grayness, and one hesitates over the question whether it should not be used in a somewhat different way. How would it be, for instance, if the more uniformly colored granite were used in smaller pieces—in lower courses or in broken, uncoursed work, and less smoothly dressed; so as to receive from the ever-ready tinting of nature's sunlight and shadow an immediate variety of tint? The more obelisk-like shafts could still be set for gateposts, and the love of big stones be satisfied in that way: nor should we insist upon the dressing of these into any semi-classical or semi-mediaeval architectural character; the square tapering post, suggestive of Egypt and the highest of all antiquity, is as good a form as any. The play of light upon its alternating sides is all that can be asked, and it contrasts perfectly with the grass, the shrubbery, and the over-hanging trees. The question becomes more difficult, however, when from a granite country we enter a region underlaid everywhere by white marble. Parts of western Massachusetts and parts of southern Vermont seem to be pretty much made up of white marble beneath the thin cuticle of vegetable soil and the roots of herbage; and when we pass through one of the towns of that region it is a little doubtful whether the New England bucolic mind has known how

to grapple with the snowy white material. It is a little painful to the eye, that appearance of a long stretch of retaining wall and a carefully worked base for a garden paling when all this substructure is of vivid white and crystalline material, semi-translucent, and reflecting every ray of the sun in apparently a thousand broken lights. And it is to be remembered that the prosperous and seriously minded community, with a strong disposition to assert its dignity and its responsibility by the external aspect of its built walls and its Sunday clothes, will insist always upon keeping its marble white. A beautifully weathered flight of steps is not to be allowed to remain tinted as nature would have it, but it must be scraped rather carefully, washed with acid, and left as glitteringly white as such domestic operations can make it; lucky if the man with the chisel is not called in and a new snowy surface is not worked upon the ancient blocks. The ailment here, as we have said, is less easy to prescribe for. If, indeed, as in some towns, the marble runs bluish in certain veins, then an agreeable variety of color can be got by a very free use of the blue marble. It tends generally to fade in color; or, at least, the weathering of stones of two colors, side by side, is generally found to produce a satisfactory approximation of tint, so that after ten years the blue marble and the white marble are not so noticeably in contrast. None the less, however, do they help one another wonderfully. The eye may not know; the untrained observation may not catch the reason for the comparative charm of certain garden walls, certain house walls even; but the charm exists, and the irregular interspersion of the bluest blocks that can be found with the almost perfectly white ones adds attractiveness to every piece of work which they go to make up. Failing this device, the one thing for the builder to bear in mind is the beauty of the shades and of the shadows upon white marble, which are always of unexpectedly lovely colors. And here a word of what may seem digression. Does the reader happen to have noticed the apparent incongruity of a white marble statue in a gallery of pictures? Has he thought to himself that it was an open question which hurt the other the most, the paintings the statue, or the statue the paintings; whether the color made the statue look cold, or the whiteness of the statue made the color look garish? Let him be reminded of the answer which a great living painter gave many years ago to a question upon this very subject: "There won't be any incongruity," said the artist, "if a statue is good for anything—if it deserves a place in the gallery at all. Nature takes care of that, and invests your statue for you with a clothing of variously tinted grays, so that it is a white object only in name, and in your own failing observation. The question for you to settle is whether the modelling of your statue is so fine that this garment of grays will be in itself a lovely thing; for remember that the difference between good sculpture and bad sculpture is main-

ly this, that the one has such varieties of surface that the gray shades upon it are lovely severally and collectively, while the other will never have anything but harsh and ugly combinations of shade in whatever light it may chance to stand." Such refinements as the sculptor expects to put into his marble are not for the builder of garden walls, and mounting-blocks, and front-door steps in small towns; but the lesson taught by that wise painter's words remains applicable. What the builder in white marble has to consider is the use of shade, and how he can, without ruinous expense, employ it to diversify the too excessive whiteness of his material when the native color of the stone has little or no variety. Thus, as these marble blocks come easily of uniform height, and coursed masonry is easy to get and inexpensive, let the builder of a three-course wall try the effect of setting his second course with three-quarters of an inch projection beyond the first, the third course three-quarters of an inch projection more, and the coping finally with a projection somewhat greater than either of the others. Such a wall looked at from the point of view of a pedestrian ten feet away, or a rider in a buggy forty feet away, will have a general effect which may be described as follows: Above the short course which separates the foot-path from the wall there will rise a stripe of brilliantly lighted, almost entirely white, surface, roughened only by the irregularities of the axed finish, and divided longitudinally by two narrow and one wider horizontal lines of the most delicate gray, which will be sometimes ruddy through reflection from the walk of pounded earth, sometimes cool from the transmitted color of the grass, sometimes almost pure purple as the sunlight brings with it tints from the sky rather than from the earth; but always beautiful. Now, anyone who has designed or who has bought and enjoyed textile fabrics, mattings, and the like, knows how effective may be three horizontal stripes when their width and the distance by which they are separated one from the other have been rightly considered. A good deal of design goes into that simple device, and it is worthy of the trained intelligence of the Javan or the Persian artificer to regulate those stripes in relative width and in spacing in proportion to their intensity of color. To the stonemason no exact advice can be given. There is one at least in every little town who has the eye and the brain for such work as this, and to see at once just how high his courses had better be; or, if the height of the courses is practically settled for him by economical considerations, to see at once how great his projections must be, in order to produce gray lines of the width which he requires. Moreover, he will find himself free, if he has a little more money allowed him and the chisel in his hand, to diversify each one of these stripes. It has been assumed that the upper course would overhang the lower one with a plain sharp arris and nothing more, but that is altogether

too rash an assumption. There is no reason why the wall should be built as in A, Fig. 1. Even if the surfaces, here shown as vertical, are set at a slight inclination so that the point, x, shall be vertically above the points y, there remains a perhaps crude simplicity about this design in bars of light and shade which the ambitious stone-cutter will desire to forego for something finer. He may then very readily give to his courses of marble the facial profile shown in B and in this he may vary the slopes and the resulting obtuse angles at o quite indefinitely. In this case he will have substituted broader, paler gray stripes for the narrower, darker ones of A, and if this pleases him, and if he wishes to contrast them decidedly with a very dark

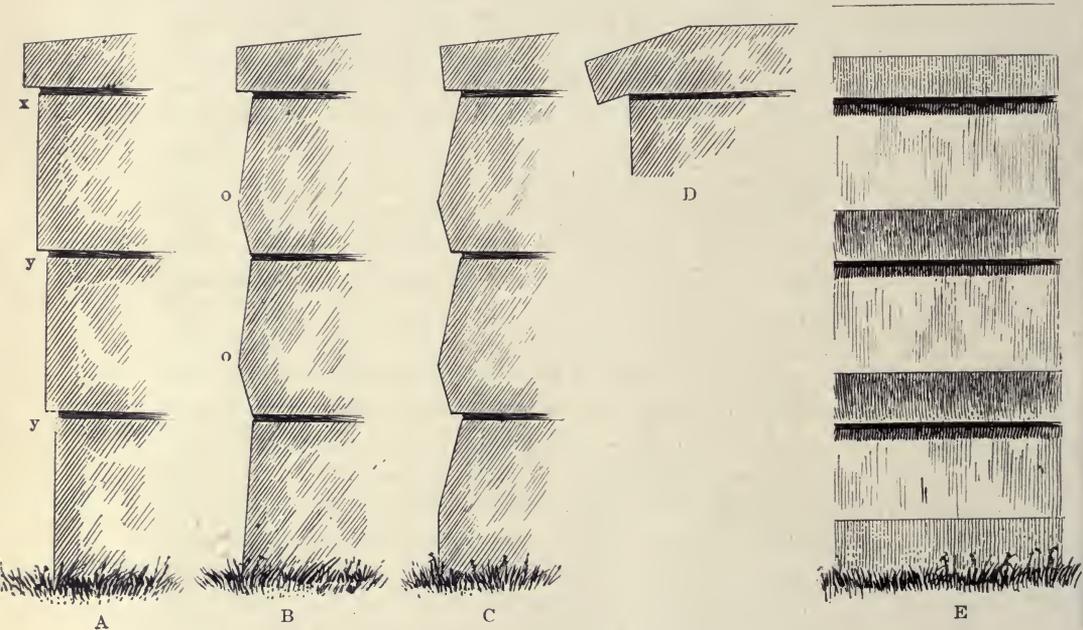


Fig. 1.

stripe indeed at the top, there is nothing to prevent his giving to the overhanging part of the coping a different and more sharply pronounced section than the one here shown. The coping whose section is shown at D will not (*experto crede*) be an expensive one to cut, and the slight difference of angle caused by the upward rake of the overhang will be wonderfully effective in intensifying the color of the shadow of it on the white wall below; while, at the same time, it will form an admirable drip. This coping or the simpler one may then be used to crown the still more elaborate wall of which the profile is shown at C. In this, the pattern drawn by the sun upon the white surface will be very much more complex than those we have dealt with previously. There will be the darkest stripe of all at the

top and this may be wider than any of the stripes below, or not so wide, as the mason-designer may elect; but below that he will have an alternation of the broader, paler stripe, one narrower and just seen to be less brilliantly white than the still broader slope of the stone above, and below this what will appear by contrast a very dark stripe indeed, which the designer will prefer to have the narrowest of all, and which the builder will find it the easiest to make so. That is to say, he will have, as is shown in E, a pattern made up of ten stripes or, if the top of the coping be considered, of eleven, in at least four different intensities of brilliancy, extending from the high light of the top of the coping which will be repeated in the stripes below it, to the extreme dark under the coping, and made up of the shadow thrown by that coping upon the uppermost course of the marble.

The relation which such simple decoration bears to the channelling and fluting of Grecian columns, and to the horizontal banding of important buildings, such as, to take a very modern instance, the American Surety Company's gigantic structure in New York City, will occur to everyone. Who was the wisacre who suggested, as a probable reason for the channelling of Doric pillars, that it was necessary to have a surface which would hold the points of spears when they were leaned up against them? The Greek mind was capable of providing a better receptacle than that for weapons of war; but also, whether his column was to be left white, stained yellow, or painted in two or three bright colors, he loved intensely the delicate vertical bands of soft gradation.

The above is not so much a digression as it looks, for the purpose of this article is to help a little towards the bringing back of architecture to its proper place as one of the decorative arts, and the one especially concerned with the shaping and piling up of solid pieces of material. We have had altogether too much during the last century or two of the architecture of the cabinet and the office—the architecture of lines ruled straight by the T-square and the set-square, and interspersed by pretty figuring. Any mason who will try to handle the stones of his neighboring hillsides as they may be handled by a man of taste and a little independence, will be doing more to restore "the elder days of art" than the designer of a new statehouse, unless that same is a very remarkable statehouse indeed—a thing not to be expected.

But from the question of snowy white stones let us go by a leap even longer than it looks, to the consideration of stones which are full of color. All through middle Connecticut there is a sandstone of a superb deep red. The old locks, retaining walls, and bridge piers of the New Haven and Northampton Canal were built of that noble material, and there the quarried blocks lie in their now unused and abandoned structures, waiting for some right of ownership to be

legally decided before anybody can put them to use a second time. But the hillsides are full of the same stone, and the wiser people of a century ago used great slabs of it as the lowermost steps (acting also as foundations for superstructures) for the wooden flights which led to their front doors. Thicker and otherwise similar masses of stone they used for mounting blocks, and to a limited extent they used this stone, laid up in course walling, for just such purposes as have been referred to in the case of countries of granite and of marble. It is not long since the writer was walking through a granite-built, granite-paved, granite-trimmed, granite-based town, with a man who owns much property in the sandstone region now under consideration; and the question was naturally asked of the landowner why he and his neighbors did not utilize, nowadays, the splendid red sandstone of their own acres. The expected answer was that the stone was too soft; and, indeed, it is not as hard as the Portland stone which comes from the more southern line of counties, nor would it do as well as that for copings; nor would one willingly build an elaborately worked, deeply cut, and finely sculptured church tower of it. If it were put to such unfit uses it would be found untrustworthy; there is no doubt about that. But it is a perfect stone for use in a wall laid up according to the admitted and well-understood doctrines for stone walling. Even if, what is not for one moment probable, it were found necessary to make the coping of a different material, the face of the lower wall would be as splendid in the natural play of deeper and paler red as the art of man could make the gray and white wall which we have imagined in connection with the marble region. Moreover, the stone, without selection except that of the roughest and slightest kind, as of throwing out the seriously defective pieces, is capable of doing good service in walling even of two-story and three-story buildings; and one is to be envied who can have his own house or his neighbors' houses built of so beautiful a material. In using such stone it will be found that the modern tendency, superinduced by the very high cost of handwork—the modern tendency towards perfectly unmoulded, unadorned openings cut square through the face of a wall—would work itself out extremely well. For the local color of the stone, so to speak; that is to say, the actual tint which its particles have when seen together, will vary so much between the different surfaces of different stones and different faces of the same stone that the need of mouldings and projecting and recessed working of the material may be thought less obvious. On the other hand, if mouldings are to be cut they must be planned, as to their profiles, with careful thought for the avoidance of projecting beaks, drips, and overhangs which may easily drop away as the soft stone takes the weather. Thus, in Fig. 2, the courses of stone being assumed to be about ten inches high and with fairly wide joints, the mortar between them may

be considered safe. The stone will, of course, be laid on its quarry bed, and the edge or side face of each course will gradually weather, sometimes by becoming slightly dished, or hollowed in the middle,



Fig. 2.



Fig. 2 bis.

sometimes by wearing off above or below, next to the joint. These slight deteriorations will be of no possible injury to the body of the work, to its permanence, or even to its beauty. But with regard to the moulded and worked course forming a somewhat ornamental band running horizontally along the face of the building, an entirely different problem presents itself. The dweller in a city house of brown-stone trim and fittings which has seen half a century of existence, knows well that one of the defects of the hard and assumedly durable sandstone of which his walls, door-steps and stoop are composed, is its disposition to wear by turning into large separate sheets, easily detachable one from another and peel-

ing or flaking off to the extent of many square inches at a time. This particular form of decay is not so much to be feared in the soft red stone of which we are speaking; this latter will rather crumble away in smaller parts so that fragments no bigger than an egg will drop from parts of a long continued moulding. The question for the designer is, therefore, what form of moulding will be least liable to be affected in that way, and the section given in Fig. 2 and the bolder one in Fig. 2 bis is offered as one of many which suggest themselves. The surfaces a b and c d are assumed to be parallel, and the surface b e is assumed to be at right angles with them, though, of course, a different disposition may be equally good. The moulded or curved section may be of two coves and a bead, which flow into one another without arrises; it may have its coves cut deeper and its bead more revealed as the stone is thought to be more trustworthy. It is for the local mason to settle the question whether the line, a b, representing the outward slope of the water-table and the general inclination of the projecting sill-course shall itself lie in the direction of the quarry-bed; or whether the quarry-bed had better remain in this course, as in the other courses of

the wall, horizontal, while the projecting member is cut out of the block in the more usual way.

Stones whose own special color is less beautiful than the red sandstone of middle Connecticut, are even more effective than that when they are treated rightly—with a proper feeling for modulation of surface. The noble sandstone which only New York of all earthly communities can boast of—the “blue stone” of the Catskill Mountain mass—is known even to most New Yorkers only as an ideal material for foot-pavements, sidewalks, and the like. Indeed, it varies in color and quality, and it is perhaps true that the grade of the stone most in use for flags is less well fitted for decorative wall work, moulding, and carving than for more utilitarian purposes; but there is a dark blue variety which is of all deep-colored stones the most effective. One should notice the monolithic basins of some of our New York fountains, such as the Bethesda Fountain in Central Park, or the foundation and basement wall of the great house at Madison Avenue and East Seventy-second Street, or the highly wrought stoops, approaches, areas, and parapets of the three houses, 4, 6, 8, West Fifty-seventh Street, in order to understand what Catskill Mountain blue-stone is capable of. Used alone, it is sombre enough; and yet its treatment in the cases just mentioned may suggest a simpler handling of it for simpler occasions. What it lacks, however, is a certain refinement of modelling which has more to do with the cut-stone work of which there will be mention by and by than with the rough uses of the country stone mason. It would be well if those surfaces which come most naturally to the stone mason, and which are commonly stained with iron in greater or less degrees of reddish brown, could be avoided altogether, for the tint in question does not well ally itself with the deep blue of the freshly broken or cut material.

That is a curious stone, as limited in its location as the New York blue-stone itself—the peculiar greenish, so-called serpentine, of the neighborhood of Philadelphia. To any person not accustomed to the country churches of that region, their sombre green walls are a novelty, indeed; nor is it wonderful if they bring up in the mind of the travelled student the more varied green of the “Prato” stone which he has learned to know in Italy. The use of all these dark stones as parts of a chromatic architecture; their utility, in short, for such purposes as the Tuscans have always put them to; is not now our subject; we are considering only what is easiest to do with our splendid natural materials, and there must be mention, however brief, of the magnificent hard, red rock which was used so freely by the architect of those ever-to-be-regretted buildings of Columbia College which stood not so long ago in the college grounds at Madison Avenue and Forty-ninth Street. That stone, we were told, was too hard

for chiseling, and yet it would have been good fun enough to have tried the experiment of using it for finer purposes than the basement walls in question. It was very like a certain light red sandstone with much coarse gravel in its consistence which was at one time dressed beautifully in New Haven and elsewhere on the Connecticut shore, and which was an ideal material for foundations. The true lover of stone must always, it would seem, be eager to try further experiment with these rocks of admitted excellence but assumed unfitness for delicate work. There is delicacy and delicacy! And he is no true builder who does not long to try all the possible uses of the fine-material, and see whether, indeed, it is as limited as people have been saying.

The splendid light brown and light gray sandstones of the Ohio region require no such experimenting to show how perfect a building material they can furnish. From year to year the colors of the most accessible stone vary too largely for the satisfaction of the careful designer who is, by this fact, thrown off his balance, somewhat; and year by year their names vary also. At least it is so in any market that you can name. As with California wine—as with the textile fabrics which one cares most about for his personal or family use—the wretched habit of appealing to the possible purchaser by the constant changing of names, trade-marks, tricks of presentation of all sorts, prevents anything like a thorough understanding of the whole business of stone work in this country. As every fresh project for a building takes shape, the designer, or superintendent, or owner has to make fresh inquiries and start afresh with his scheme of building and consequent design. There is, for instance, a magnificent light brown, or, if you please, warm, light gray sandstone from the middle west, which is reputed to be more nearly fireproof than any natural material known to us. It is said on good authority that ovens are built of it, or partly built of it, in regions where it abounds. That stone and its quarry should be so well known, at least by every architect, and by every large contractor in our cities, that there would be no more difficulty in procuring it on demand than in procuring Wamsutta shirting cotton. It is so, of course, with the limestones; and peculiarly so with them as they are more newly come into the field and are disputing the right of way with each other a little more fiercely. All this, however, is merely the *obiter dictum*—the brief aside of one who loves to know what he can count upon, and objects to hear verandahs called piazzas, carriage-porches called *portecochères*, the name of a good vineyard lost in the announcing name of a company, and the name of a stone quarry lost in that of an agent or a speculating firm. If we knew the quarries we should know what was possible with those quarries which once were famous. How about the stone of which were built, during the same short lapse of time, Trinity Church, New York, and the University Place Presbyterian Church, at the corner of University Place and Tenth Street?

According to all the traditions, this stone, quarried in the years 1846 and thereafter, was carefully examined, and the blocks sorted as for color; the expensive and stately Trinity Church being built of the stone which is least varied in color, while the blocks which run the darkest and the lightest were left out, and could be put somewhat more cheaply for the less sumptuous structure. It is hard to say which of the two buildings is the most successful in this most important matter of the color of the material. Different persons of good taste will differ as to this; the stone is of a lovely color whether in its darkest or its lightest shade, and gradation and contrast between the darkest and the lightest shade is at least worthy of comparison between the nearer approximating middle tints of the larger and more famous building. That quarry was in New Jersey, and not so very far from tide-water; and other quarries were there which were famous not many decades ago. The commercial eagerness to push a stone into the market to the extent of underselling competitors and taking perhaps a price lower than that which will really pay the dealer, is, of course, responsible for the constant substitution of new stone for the old familiar varieties. We are always hearing that an old quarry is exhausted, but on examination it proves continually that the old quarry is as good as new, the stone varying perhaps in its tint, in its grain, in its hardness, but valuable stone still. What we really want is a sort of agreement among the architects, and the formation of a committee of examination which will keep the run of the quarries as far as commercial exigencies allow the facts to be known; and will enable a man to build with a given stone in his youth and to use it again in his maturity.

The assumption in all the cases of stone-working which have been mentioned above, is that the surface of the wall, made up of all these separate courses, shall be of that modified roughness which is produced by hammer-dressing, or, at most, by "pointing," in some of its forms. That is to say, the rough and simple work here contemplated is not assumed to involve the use of the chisel in any of its forms, but only of the simpler tools which knock off larger fragments of stone and leave it in a generally true vertical facing. But now let us consider the value to stone-work of such high finish—of such more delicate manipulation as the tough, durable, and well-compacted stone allow. What is called rock-faced work has been common in America. Among the new buildings of Yale College, Duffee Hall, as it is now called, was built about 1870, with all its larger surfaces treated in this way: and the large and elaborate Battell Chapel, a church costing nearly \$200,000, completed about 1873, had its stone walls rock-faced also, although here the large amount of arched and other ornamental exterior semi-Gothic elaboration diminish the proportionate amount of the rougher surface. This rock-faced work was done by a simple process less easy to describe than

to work. In Fig. 3, let A be a rough block of stone, upon which the mason has worked the four "beds," namely, the vertical faces a and its opposite, and the horizontal faces b, the top bed, and the unseen bottom bed parallel to this last. Upon these four beds he has drawn

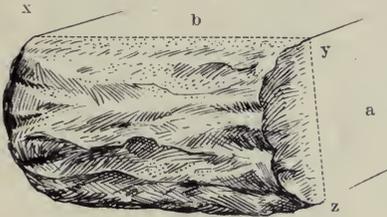


Fig. 3.

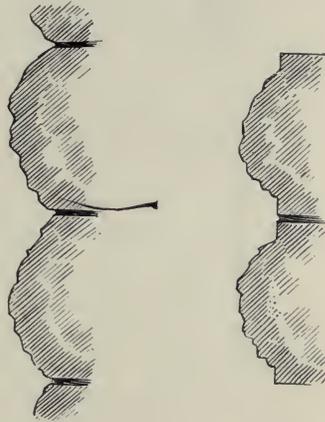


Fig. 4.

Fig. 4 bis.

in, in pigment, or by common rough lead pencil, the lines xy and yz , and corresponding lines on the other two beds. These lines are carefully squared with one another, and are kept "out of wind" (wind to rhyme with mind). The next and the final step is to put the edge of your broadest "drove" chisel at one point on any one of those lines, to strike it with the mallet and let all come away that will—and to repeat this process continuously all around the line. In other words, all that naturally flakes or splinters away as the chisel cuts into it from above is allowed to break away; but the chisel is allowed to go no further, nor to alter the natural cleavage of any part of the face, which is required to have everywhere the look of the naturally broken stone. When a wall is composed entirely of pieces of stone of this character, its section will be as in Fig. 4. It will be seen that the mortar will remain at home within its own proper place; that is to say, the joint between each two blocks. No stray splashes and no "ponds" or large receptacles for the mortar will appear anywhere on the face of the wall. The mortar joints are as thin as the actual distance between the upper bed of the lower stone and the lower bed of the upper stone, nor does the pointing which may be applied after the laying up of the wall in any way increase the apparent width of these joints, which, indeed, are kept as narrow as is at all practicable. Such work as this was afterwards used very freely by H. H. Richardson in the Romanesque buildings which he erected between 1876 and the time of his death, ten years later. There is one obvious and irresistibly

strong reason for its common use, and that is its cheapness, for the contractors will generally undertake to do such work at a much lower rate to the square yard of surface than they could accept for work done with any of the tools commonly in use. The broken surface is cheaper than the worked surface. That appears to be obvious. On the other hand, many architects who know something of the way in which stone work was faced by the most careful builders in sandstone and limestone of whom we know anything—French, English, and German workmen of the thirteenth and following centuries—would reject the rock-faced surface as denying all possibility of the delicate manipulation of the masses. It is hard to put into words the scorn with which some of the few modern artistic designers in exterior architecture speak of the rock-faced work around them.

The truth, if there be a general truth, lies somewhere between the too common practice and the complete rejection of this way of facing stone walls. No one who is denouncing modern rock-faced work ought to ignore altogether such a splendid proof of the possibilities contained in this method as is afforded by the Palazzo Vecchio at Florence. Every stone in that great structure has a rock-faced surface except those which are delicately worked in moulded and otherwise wrought string-courses and similar architectural features. In the contrast suggested by the last sentence lies perhaps the whole secret of the charm of this building and of the lack of charm in buildings which have not been treated in the same intelligent way. Fig. 5 shows a small part of this building, the purpose of the view being to express the very peculiar and powerful effect produced by such very minute architectural members when contrasted with large surfaces of the naturally broken stone. It is evident that the firmly outlined shades and shadows of the moulded, dentilled or sculptured courses and bands carries it over the looser, the unorganized, the thicker light and shade of the rock-faced wall. To work in this way requires more



Fig. 6. Part of basement of Pitti Palace, Florence. The blocks though classed as rock-faced are not left entirely as the stone first broke away, but have been worked to a somewhat rounded form. Those of the retaining walls below are much bolder.

boldness than our architects, unaccustomed to designing where the books of authorities have not shown them just how to lay down their lines, are in the habit of undertaking. The titanic effects produced in the basement of the Pitti Palace, as seen in Fig. 6, or in the still more monstrous overhangs of the rocks piled together in the re-

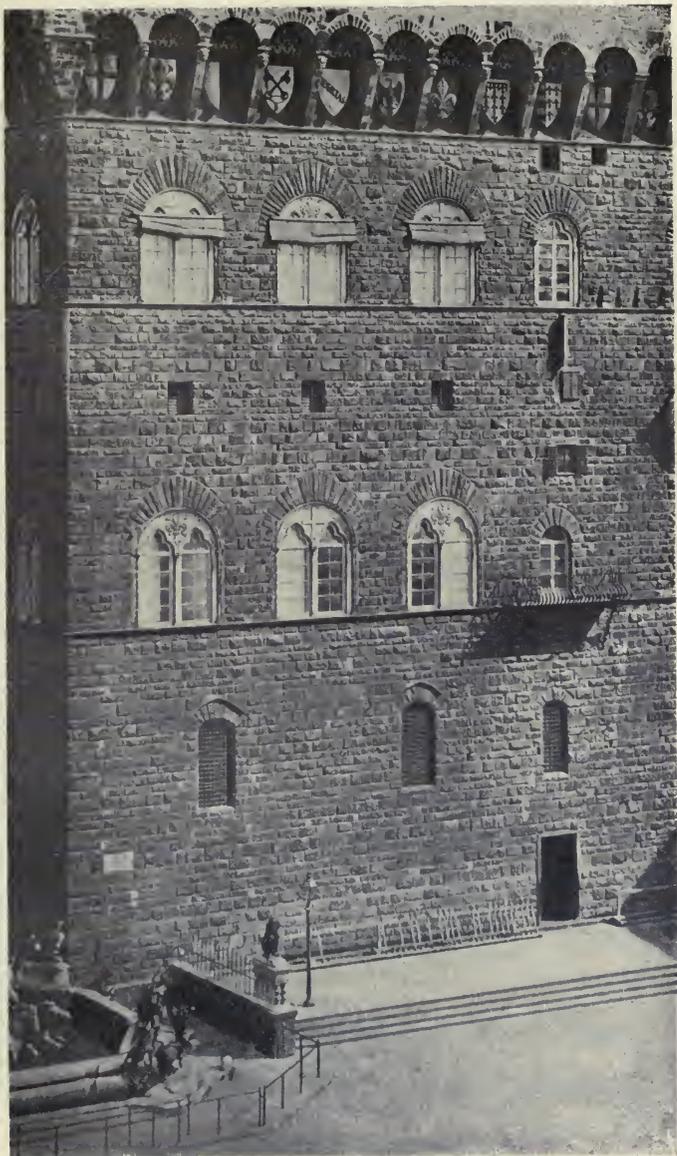


Fig. 5. Part of the Palazzo Vecchio, Florence.

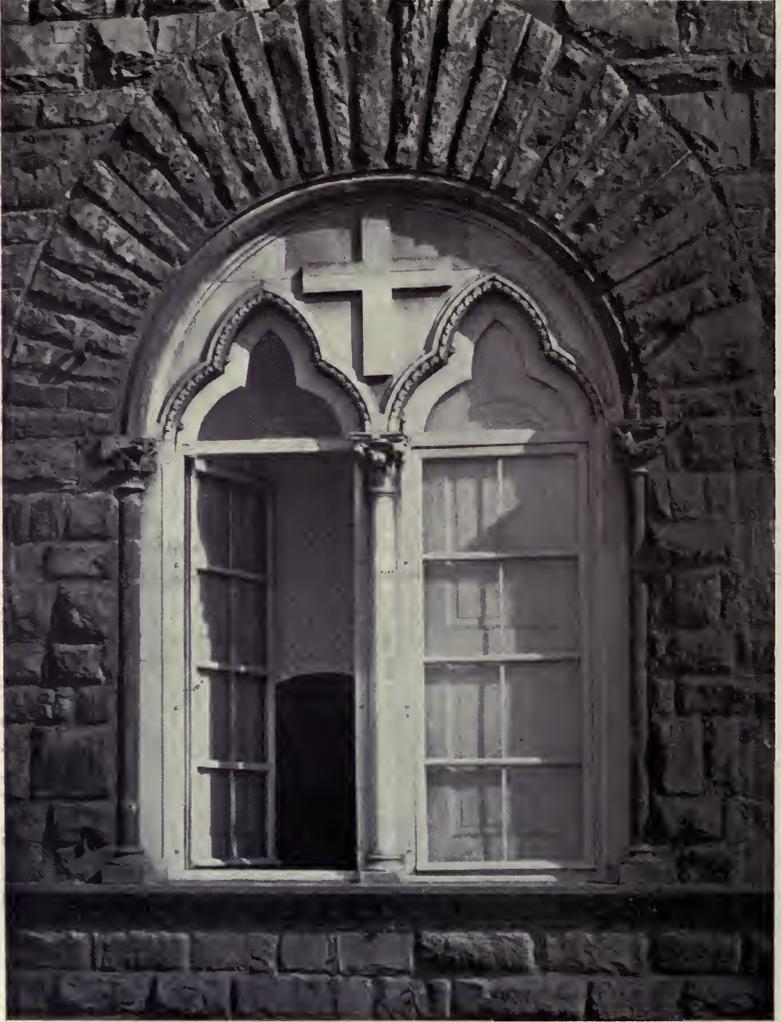


Fig. 5 bis. Detail of the Palazzo Vecchio, Florence; rock-faced work contrasting with tooled mouldings, which yet are effective by contrast of their sharp-edged and distinctly marked lights and darks with the irregular lighting on the rough surfaces.

taining walls of the terrace below—some of which project horizontally eighteen inches beyond their joints—need hardly detain us here. Modern architecture is very unlikely to deal much in such grandiose work as that, unless in a piece of frank imitation of the extraordinary building named. Moreover, this is not the every-day simple and familiar architecture with which we are concerned in this paper.

On the whole, then, the surfaces of granite, of sandstone, and of limestone alike (marble being considered here as a modified form of limestone not now requiring separate consideration) may be thought to be at their best when the deepest recess made by the blow of the point of a pick is not more than one-half of an inch deeper than the greatest protuberance. There will be, of course, a vast number of protuberances, and a vast number of hollows, all having approximately the same depth, the same projection. The general surface is in one vertical plane; that is to say, a long, straight edge can be applied anywhere to the surface and will be found to correspond no matter in what direction it is applied, while a carefully handled rule at right angles to the straight edge will nowhere find a hollow more than half an inch deep. This is not a rule of the books; nor is it to be formulated as final and positive; it is intended merely as a form of words expressive of the nature of the roughest surface to be given to stonework when the best effects are to be looked for. It is necessary, however, to point out one common modification of the processes of the rougher facings of stone walls, whether in their least finished form of rock-faced work or in their more highly wrought surfaces, such as are known by the technical names "pointed," "sparrow-billed," "dabbed," "droved," "tooth-chiselled," "patent-hammered," "axed."

It is not unusual to see each block of stone framed all around by a flat surface an inch or two in width, and much more smoothly wrought than the other parts. Thus, in Fig. 4 bis and in Fig. 7, the narrow band which surrounds the face is what is called a draft, and this draft is worked much smoother than the rest of the face. In the sketch before us it

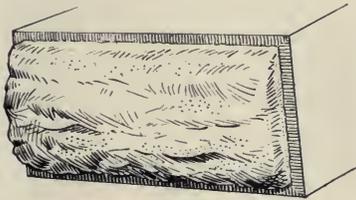


Fig. 7.

has been assumed that the draft has been worked by the drove chisel, while the centre is roughly finished with the pointing tool. In a wall where every stone is thus marked off from its neighbors by a draft, which, being repeated on the edge of every separate stone and carried out by the thickness of the joint between the two drafts, makes a very decided flatter band between the two rougher faces—in such a wall, it is evident that, for the best effect of the whole building, a great deal too much is made of the size and shape of each sep-

arate block which makes it up. This comes very near to that other trick of "rustication," in which the edges of the stones are chiselled away so as to leave not so much the face of the stones in relief as the joints in intaglio, recessed below the face of the wall. It is nearly always better for the general effect that the walls should be uniform in surface, the joints of the stones comparatively ignored and the individuality of the different blocks emphasized only by their difference in color and their slight, almost imperceptible difference of plane. Such irregularities as these add immeasurably to the charm of the work, but their very effectiveness is diminished greatly by the framing in of each stone by the strongly marked draft. On the other hand, a draft is of almost inestimable value in those numerous parts of the building where an architectural member is to be strongly insisted on. Thus, if we take one corner of a building where a large and bold bead is worked vertically from top to bottom of the wall, which bead may, by the addition of a moulded base and a sculptured cap, become what is known as an angle-shaft, or which may even, by a still more decided deepening of the quirks which separate it from the body of the wall, become what is known as a nook-shaft, it will be seen plainly that the rougher surface of the stone must be tamed down, in a sense, in order that the architectural member may have its due effect. The verticalities of the lines of the angle bead and its quirks cannot be left at the mercy of the irregularities of the hammer-dressed or pointed surface; it is assumed that the work is on too small a scale for that. If, indeed, the bead is two feet in diameter, a different treatment may be possible; but that is not now the assumption. It will be found that as the bead with its accompanying mouldings require to be worked with the chisel, so these features also require to be finely worked and strongly marked by the similar chiselling of the small portion of the flat surface of the wall on either side. A rougher, more cottage-like treatment may be thought of in which such refinements would not be needed; ordinarily, and especially in city work, it will be found quite necessary to give to the doorways and window openings such firmness of outline as will call for the treatment which is here explained. In these cases, so far from each stone being separated from all the other stones by its own firmly outlined draft, the wall may be considered as divided into certain very large tracts or compartments each framed in, or rather bordered by, the architectural members themselves and the peculiar treatment of the surface which combines with the modelling of that surface to give the architectural members their due weight in the structure. The very purpose of the angle-shaft, or pilaster—of the entablature and the stylobate (at least in walled structures), of the sill-course, lintel-course, wall-cornice, and base-cornice; their very purpose and significance, is that framing, that expression of the artistic composition of the

building, as distinguished from its merely constructional disposition which makes up so much of the art of architecture as relates to walled and roofed exteriors. It is this very organization of the architectural details and the necessity of displaying that organization which makes against the composition of rock-faced stone walling as suggested above, and it is true that those builders who of all men known to us have shown most strongly a sense of the architectural framework of a building, the builders of the great Gothic churches, never show any disposition to make use of rock-faced work in any exposed, adorned, or elaborated part of their structure.

To consider, then, what other methods there are of working the face of stone, methods familiar to all men and in constant use; to consider these and their relative value and their special characteristics, let it be noted that the tendency is towards a certain grooving or reeding of the surface of stone which may be very objectionable indeed—more objectionable by far than the most ill-managed, the



Fig. SA.

Fig. SB.

roughest and most exaggerated rock-faced work. Fig. 8 gives at A a section through a piece of stone which has been finished by the drove chisel, and at B a section through a similar piece of stone which has been finished by the tooth chisel. The fact that surface A is worked sidewise, and surface B endwise; or at least that they are worked in different ways, each blow of the chisel in A working across the groove which it cuts and producing a sort of wave form with a long downward and a shorter upward slope; whereas, in B, each tooth of the chisel cuts its own groove lengthwise, producing a V-shaped groove not very deep, but very sharp at the bottom, the stone between the two adjoining grooves breaking away in an approximately rounded surface and resulting in a section which has been compared aptly enough to "the corduroy of the stone cutter's trousers,"—that fact is inessential to our present purpose. A stone which is in process of being finished by either of these methods, or by both of them combined, is a stone that is being spoiled in nine cases out of ten. The grooved or ribbed pattern drawn over the whole surface of the stone, or over so much of its surface as is enclosed within the draft, is as nearly ugly as the surface of a fair block of cut sandstone can possibly be. The ribs are, of course, almost inevitably carried continuously from top to bottom, or end to end horizontally, and it will become as a matter of course the object and the pride of the workman to make these ribs parallel and beautifully regular from

edge to edge. The drove chisel is used with perhaps a little more reason and moderation, but that also is a tool liable to serious abuse. When we see a bead two inches in diameter or thereabout, and therefore a somewhat delicate member—when we see such a bead cut by the drove chisel into a series of hollow channels, so that from a bead the member in question has been brought to a somewhat irregular and unseemly polygon, then we feel the full force of the objection to the drove chisel and the danger of its employment; see Fig. 9. By

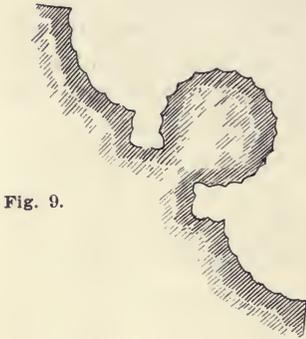


Fig. 9.

either of these methods carried to the extreme which we are now supposing, the beauty of the stone is almost wholly destroyed. This is a very serious consideration; for the superiority of stone over other materials—the one thing which keeps it in the front of all materials for walling which the world knows, and which makes stone building in the universal estimation of mankind the noblest that exists—is the beauty of the material itself no matter how its surface may be

treated. From the rough block to the most elaborately carved panel, the surface of stone is lovely if it has only half a chance allowed it! And the surface which we ought to study, to imitate which we ought to strive, is the surface of a stone which has lain for two hundred years in a wall and which has weathered perfectly well. That is to say, if we knew the trick we would all of us reproduce the weather-worn surface of a stone upon which the weather has had no radically disintegrating or otherwise destructive effect. Go to the limestone wall of Rheims Cathedral, or the sandstone wall of Strasburg Cathedral, or the granite wall of Dol Cathedral, selecting sections of the building which are known not to have been rebuilt or refaced, and where the stone has met the weather for six hundred years, and you will see a surface which is the most beautiful that man can devise. In color and in texture, if that word may be employed; that is to say, in grain, in roughness and in smoothness, that stone will have the ideal face for the decorative building of the future, if only we could reproduce that face. Older buildings than these it is hardly safe to examine, for those of classical antiquity have been despoiled of their surfaces by the violence of man during the Dark Ages, or, if in better condition, have been saved only by partial interment; or else, finally, they are known or suspected to have been so far shielded by paint or by surfaces of stucco covered with paint that

the full effect of weathering has not been felt by them. Still, however, marble is to be seen in the highest possible perfection in the ruins of Greece; peperino and travertine are also splendid among the ruins of Roman monuments, and these especially in the warmer and less rainy climates of what was once the Roman world. The stone-built châteaux and churches of the northern Renaissance in Europe, and of the Roman palaces of the seventeenth century were once equally worthy of study with the earlier monuments; but there is to be feared a certain watchful care, during the last forty years, on the part of their guardians and custodians which has kept the stone from weathering naturally and maintained it always in a condition of high finish incompatible with the true growing old, with the true ripening of the surface.

This surface when found and examined will prove to be somewhat of the nature of a solid and well-made paper of coarse grain, but not in a perfectly true plane; that is to say, there will be little wavy irregularities, slight and shallow hollows, slight and imperceptible ridges, or mound-like projections with which the whole surface is modulated, while every part of this so modulated surface is more minutely diversified by the grain which has been already compared to that of paper. In short, the stone will be found to be something like the surface of water which the wind has raised into waves, every great wave rippled into a million little ones; but then the waves of the stone are so slight and gradual that the eye does not detect them except in the general effect of causing a charming modulation over the whole surface of the wall. It may be impossible to give this general modulation to newly-faced work, but the slightly diversified, the grained and the roughened flat surface is within our reach, and there are different ways of producing it. What is called sparrow-billed or picked work would be excellent but that the blow of each separate point of the many which strike the stone makes not only a depression in the stone but also a broken or bruised spot which is unpleasant at first and does not lose, sometimes for thirty years, the appearance of an injury—a jar, or disintegrated patch—an effect the very opposite of the strong and enduring character which the stonework should always retain. If it were possible to finish the surface of stone with minute depressions without those bruised or shaken appearances, this would be a good method to resort to. Even as it is it is defensible. Pointed work, that is to say, the preparation of a surface by means of the steel chisel which has a square, blunt point instead of the long and thin cutting edge, is open to the same objection of seeming to bruise the stone. It is and must be in continual use for the second step in the preparation of stone. That is to say, that after the stone has been brought approximately to its surface, either by the hammer or by the broad smooth chisel used as described above in what was

said about rock-faced work, the pointing tool is then used with a vigorous swing of the mallet to drive it to bring the stone nearer to a smooth and uniform surface. At this point the work often stops, and, as has been said, the pointed surface is not apt to look bad. But then it is this bruised and shaken look to which such strong objection has been taken.

As for the tooth-chisel, there is one way in which it can be used to great effect. It was tried in a very elaborate piece of stonework in 1873, and with results so good that it is safe to urge its further adoption. Suppose that the tooth-chisel is struck once along the surface of an approximately smooth stone. The look of the small surface so struck will be, of course, that of a series of very slightly emphasized ribs or reeds parallel to each other. Suppose that the surface so prepared is of the width of the chisel, perhaps, an inch and a half, and, in length, about an inch. Suppose, now, that the chisel is set upon the stone again at a very slight angle with the position it occupied before, and that again it be struck along the surface for the distance of about an inch. Let this be repeated constantly over and over again; every new inch long patch of ribbed surface invading a little the one last made, so that no one of these patches shall remain a parallelogram an inch wide by the width of the chisel in length, but that all shall overlap and invade one another. The surface so produced may, perhaps, be expressed by the sketch, Fig. 10, which, of course, does not really represent it—as, indeed, nothing but a photograph, and that of the full size, could really

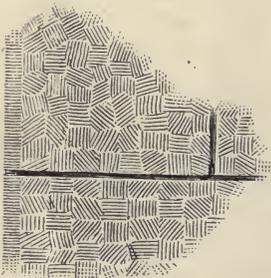


Fig. 10.

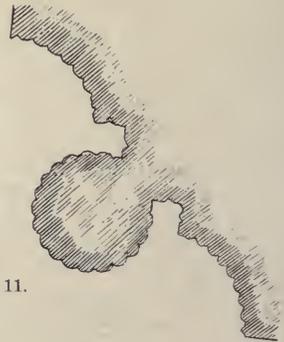


Fig. 11.

do. If now, as in the illustration, such a surface be bounded by a carefully cut draft worked with the drove chisel, but this only on the side adjoining the jamb of the door or window opening, or the outside angle of the building, or a part of it, then your wall-surface is what you will like best, in the long run. In the diagram, Fig. 11, the difference between the drove work and the toothed work is in-

adequately rendered; the former being comparatively smooth with hardly any perceptible variety of shade caused by the shallow scoops, whereas the latter forming a greater part of the surface of the wall is covered everywhere with fine, hair-like shadows drawn by the ridges left beneath the teeth of the chisel. The drafts, then, are, or seem to be essentially smooth, whereas the smoothness of the body of the wall is rather that produced by an infinitely varied hatching of short dark lines breaking each other at all angles. On the other hand, the diagram exaggerates the emphasis of the joints. If they are pointed in a judicious way they will not catch the eye noticeably.

From coarser to finer we have been approaching the conditions under which stone has to be handled in the most delicate way; that is to say, when it is to be carved into ornamental patterns. An approach to this refinement of work is essential in the case of ornamental mouldings, such as those which enter into the entablature of a classical building, or into the window jambs and door cheeks of a decorative structure of any epoch. The more elaborate the groups of mouldings, as in English Gothic arcades, as between nave and aisles in a fourteenth century cathedral, the more essential it is that the touch of the chisel upon each rounded surface should be the more subtle and delicate, and at the same time the most effective possible. If, indeed, we had an uninjured, unbroken group of fourteenth century mouldings to study we should probably find the highest possible expressiveness and vigor in French work, and the particular cut by which that expressiveness was produced should be the subject of our thoughtful study. Consider, for instance, the case of a rounded moulding, either of a bead or of one of those surfaces of double curvature—those whose profile is expressed by the familiar term, an S curve; the tool by which such a surface is cut nowadays will generally be a narrow, flat chisel, and it appears that the same tool must have been used in ancient times that is used to-day. It is doubtful if the gauge or chisel of curved edge was ever in use for stone-cutting on a large scale. The flat chisel then being the tool used, a good surface of rounded section will tend to approximate only to these rounded surfaces and to make of a bead not a true cylinder but rather a polygon of an indefinite and varying number of sides. This is not to be regretted so long as the non-circular character of the supposed cylinder is not too visible. Thus, in Figs. 9 and 11 the two extremes of ugly work are seen, the one having been produced by the drove-chisel, the other by the tooth-chisel; the one fluted, the other reeded. Which of the two is the uglier in actual execution it is difficult to say; probably the reeded one. Fig. 11 is apt to be the most detestable, because the reeds are gloried in by the stone-cutters who seem to think their work is the better, the more strongly and viciously these ridges manifest themselves. But if in place of these exaggerations, the bead,



16-22 William Street and another.

The left-hand building, drove-work or machine-tooling in imitation of that. The right-hand building has the large panelled pilaster, the deep recess, and the draft around the rusticated blocks, all drove or machine-worked in imitation of drove-work. The projecting parts of the rusticated blocks are sparrow-billed or pecked. The mouldings of carved surface are also drove. The lines of the tooling are carried in different directions, and are of different degrees of fineness, and this would add greatly to the effect if the tooling were done delicately by hand.



33 Wall Street.

Courses of stone alternately tooled (probably machine-tooled) and roughly pecked or sparrow-billed, with a tooled draft about each stone so treated.



PORCH OF DELMONICO'S.
Beaver St.

Shaft of column finished in drove-work, or a machine-wrought imitation of it. The surface has been lowered or cut away so little that some of the pits left from the original pointing of the block are still visible. This adds greatly to the effect of the shaft.



45 and 47 Wall Street.

Rock-faced work in the archivolts between the carved hood-moulding and the mouldings of the intrados; also in lintel of windows below or in filling between that lintel and sill above; also in upper story. The remainder tooled in different ways. Stone of two colors used.



46 Wall Street.

Rock-faced work in piers, contrasting with tooled work of inner jambs of windows and of moulded base-course a little above the side walk.

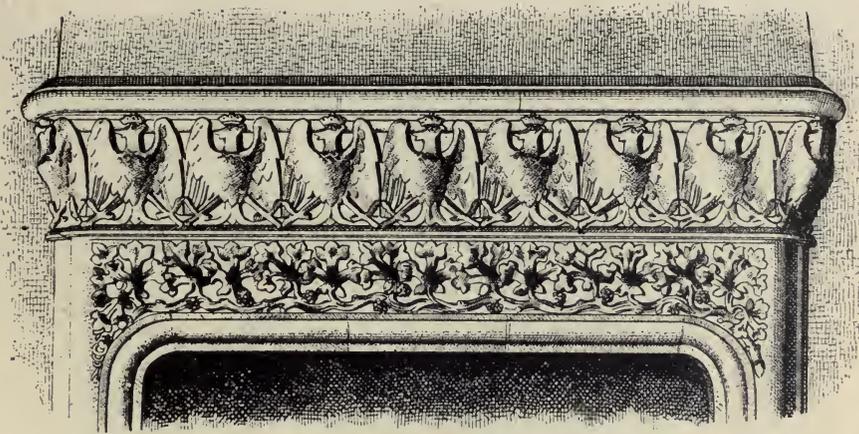


46 Wall Street.

Rock-faced work in a pier, each stone of the full width of the pier; contrasted with roughly tooled moulded watertable.

large or small in diameter, is cut as closely to the cylinder as the flat chisel can do it with reasonable speed and facility, the ideal surface is probably reached. It would be a feeble and uninteresting building, indeed, in which every bead were cut as true to the curve as if it had been turned! The coves, too, and the mouldings of double and of complex curvature, are all better if they are off the curve a little. One reason why carved work is better than cast work, and hand-wrought work generally better than struck, stamped, or otherwise machine-made work, is that the hand does not give absolutely correct curvature to its products. And this same state of conditions apply perfectly to the question of sculpture as it is applied to architectural matters. With statuary added to buildings—set up on the top of parapets or in niches in the wall, we are not now concerned, but architectural sculpture, so-called, that which is as it were a development of the architectural members themselves, is to be treated with the chisel exactly as delicately moulded work is to be treated, and left from the cutting tool without the invasion of sandpaper or of any smoothing process whatever.

Russell Sturgis.



THE RETURN TO STONE.

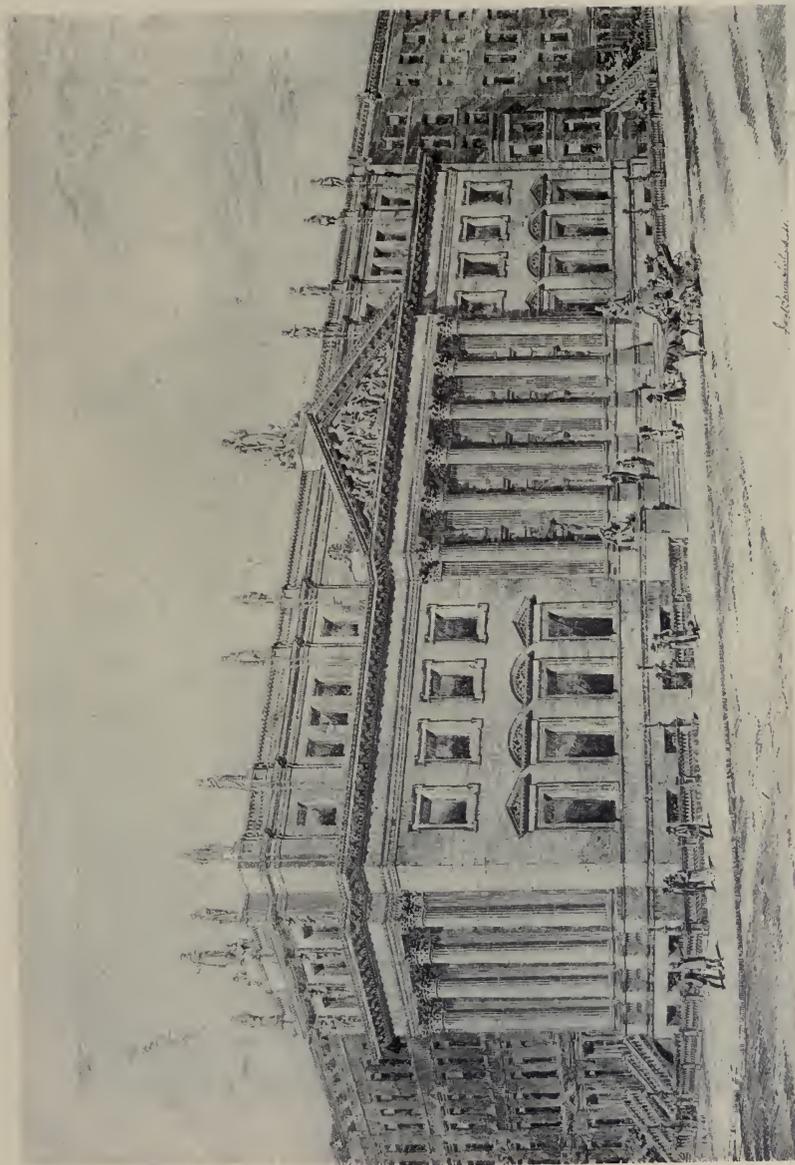
EVEN the wayfarer must have noticed lately that more stone buildings have been erected in New York and in other large centers of the country than formerly. A few years ago all or nearly all the buildings the wayfarer saw in course of construction were of brick and terra cotta. Perhaps even he might then have marvelled at this, particularly if his memory were sufficiently long to reach back twenty-five years or more to the time when every considerable residence, and still more every commercial building of note was erected of stone—either the brown-stone of those rows of becolumned and bestooped “fronts” that still give an air of sad sobriety to many of our streets, or the white marble of those “survivals” which may be encountered even to this day here and there, such as the Park National Bank, the old Stewart mansion, or the still older Fifth Avenue Hotel.

The older generation that put up and “put up with” these structures no doubt were poor artists and even poorer constructors, but it is perfectly clear they hankered after stone, or to speak more correctly a surface of that material, when they attempted to do anything fine. In this they were right. Probably it may be said that no architect who has not a “sense” for stone rises above the subordinate grades of his profession. Certainly no nation that has not possessed that sense has attained to the monumental rank in the history of architecture. Stone is the “epic” material, and the choice of any other has in all times and places acted as a bar to work of the highest character.



THE NEW COURT HOUSE
(Of Marble).

Baltimore, Md.



APPELLATE COURT BUILDING
(Of Dover Marble),

Madison Ave. and 25th St., New York City.

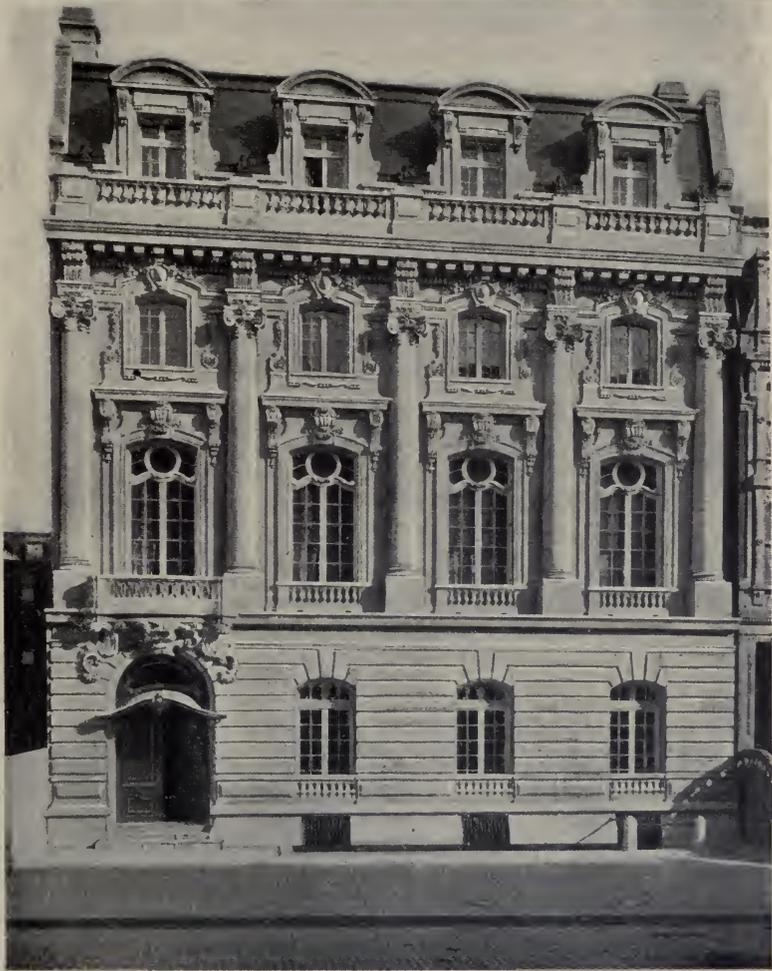
James Brown Lord, Architect.



NEW OFFICE BUILDING
(Of Indiana Limestone),

N. W. Cor. Waverly Place and Broadway, N. Y.

Clarence L. Sefert, Architect.



RESIDENCE OF HENRY T. SLOANE
(Of Indiana Limestone),

9 East 72d St., New York City.

Carrere & Hastings, Architects.

I have no distaste for the humbler materials. One cannot deny the charm of old Dutch or English brick-work, or fail to appreciate the beauty and fitness of Swiss and Scandinavian timber buildings. But they are not of the first order. Even as more modern things go there is much to admire in the terra cotta work of the "eighties" that covers this country from Maine to California. But in my judgment, and I believe in the opinion of others, the material was over-worked. Cheapness and facility, two of the dangerous qualities of plastic clay, led architects and public astray. It was so easy to do the "excessive," and, as Dr. Johnson pointed out long ago, there is something in human nature that delights in making people stare. Terra cotta just suited this instinct, and many of the buildings in which it was used seemed to have been designed with this object in view.

I think, therefore, that the increasing favor which stone is now finding in the estimation of our architects and our public is an encouraging sign, and the "return" ought to be furthered by everybody. In architecture, I know, choice is mostly dictated by fad and fashion. Terra cotta had its day, and after a time a change of some kind becomes desirable. I believe, however, that the return to stone is founded on something deeper than the modish taste of the hour. Every year our architects are being called upon to do work of greater importance than before. Our commercial buildings become huger piles, and our private residences of a more sumptuous and palatial character. For this reason the choice of stone is in a sense imposed upon us. The twenty-story office building in brick cannot be saved, even by great care in design, from a certain thinness and cheap look. If anyone doubts this, let him compare, for instance, the Park Row Building with its towering neighbor the St. Paul Building. The eye can almost take in both at a glance. One is brick, the other stone, speaking of the façades. How much more substantial and monumental the stone building appears. There is not much to boast of in either of the designs. They are both rather meagre, but in the brick building, such design as there is seems to be almost killed by the material, whereas in the stone building, the material decidedly strengthens and emphasizes whatever there is of design.

Left to themselves, architects probably would always choose the nobler material. They cannot, however, ignore the owner with his desire for economy, but, under present conditions, the saving effected by discarding stone is so comparatively slight and amounts to so much less than it used to, that we doubt whether it pays to accept it.

By employing a good architect the owner practically confesses that there is a certain monetary value in a handsome well-appearing building. Actual experience shows this to be a fact, and every real

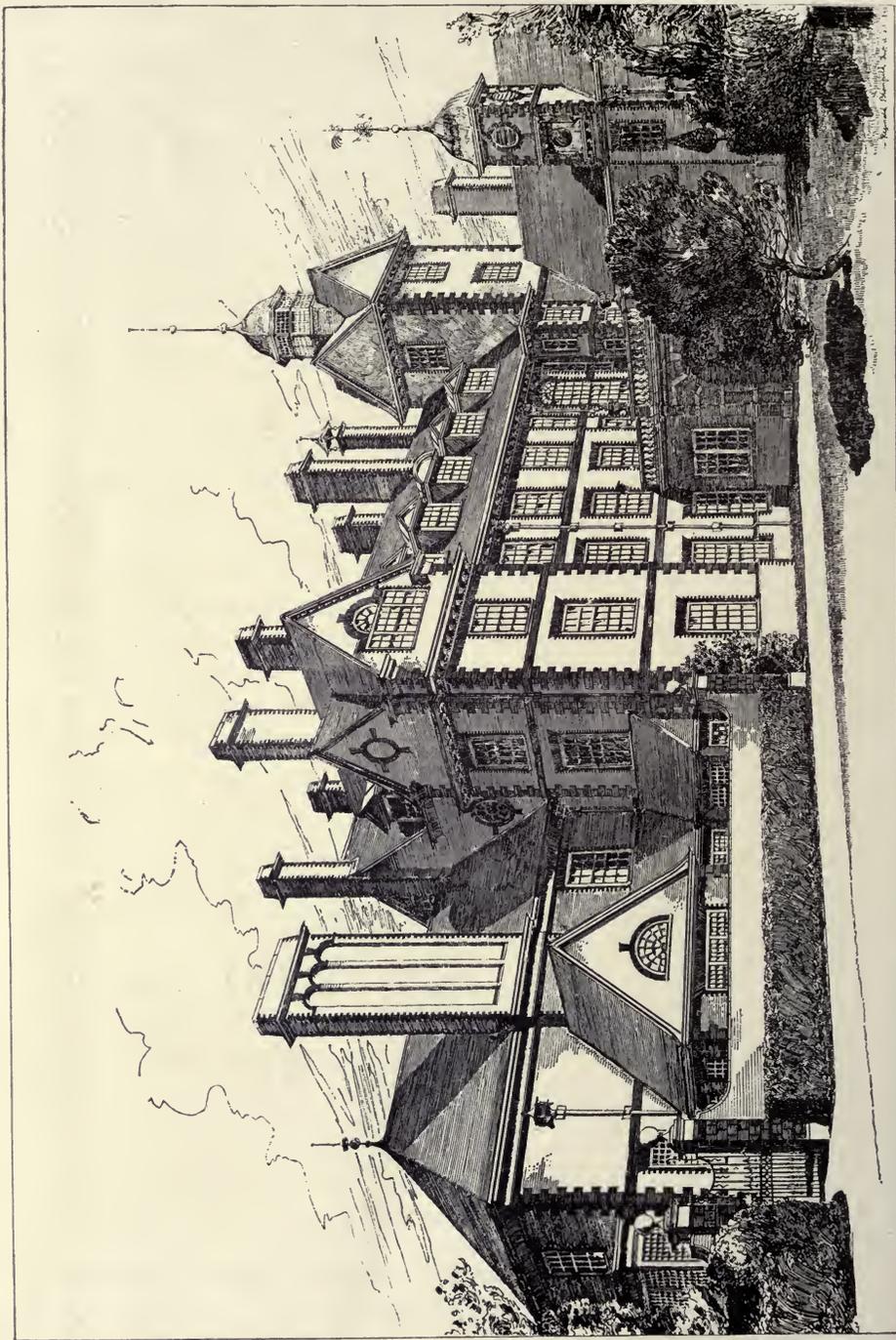
estate agent knows that tenants are attracted by a handsome front. To build in stone is only to carry out this idea to the fullest.

Moreover, the stone building "lasts" longer. I am not speaking, of course, of physical durability, but of those "wearing" qualities to the eye which keep a building from taking on an old-fashioned appearance. This is a very important matter for an owner to consider. It figures in his rent roll, for people, especially the American people, object to antiquated looking things. After standing twenty years a stone building will look very much more modern than a building of other material. To make this plain, consider how very much more ancient the old Custom House on Wall Street, or the old Astor House would appear if they were constructed of brick, or, compare, for example, the Park National Building with the Evening Post Building. Nine passers-by out of ten, I judge, would regard the older building as the more recent, unless their judgment were influenced by the greater height of the one than the other. Considerations of this sort, I think, would outweigh with most owners the bill for the extra cost of stone.

And let it not be forgotten—this extra cost amounts to less than it did. The application of machinery to nearly all the operations of quarrying and dressing, as well as cheaper transportation, more economical methods of handling, have greatly reduced the cost of stone work. Stone carving, moreover, is a craft very much better understood than it was twenty years ago. There are more firms in the business, and they are all equipped with large plants and are provided with abundance of labor.

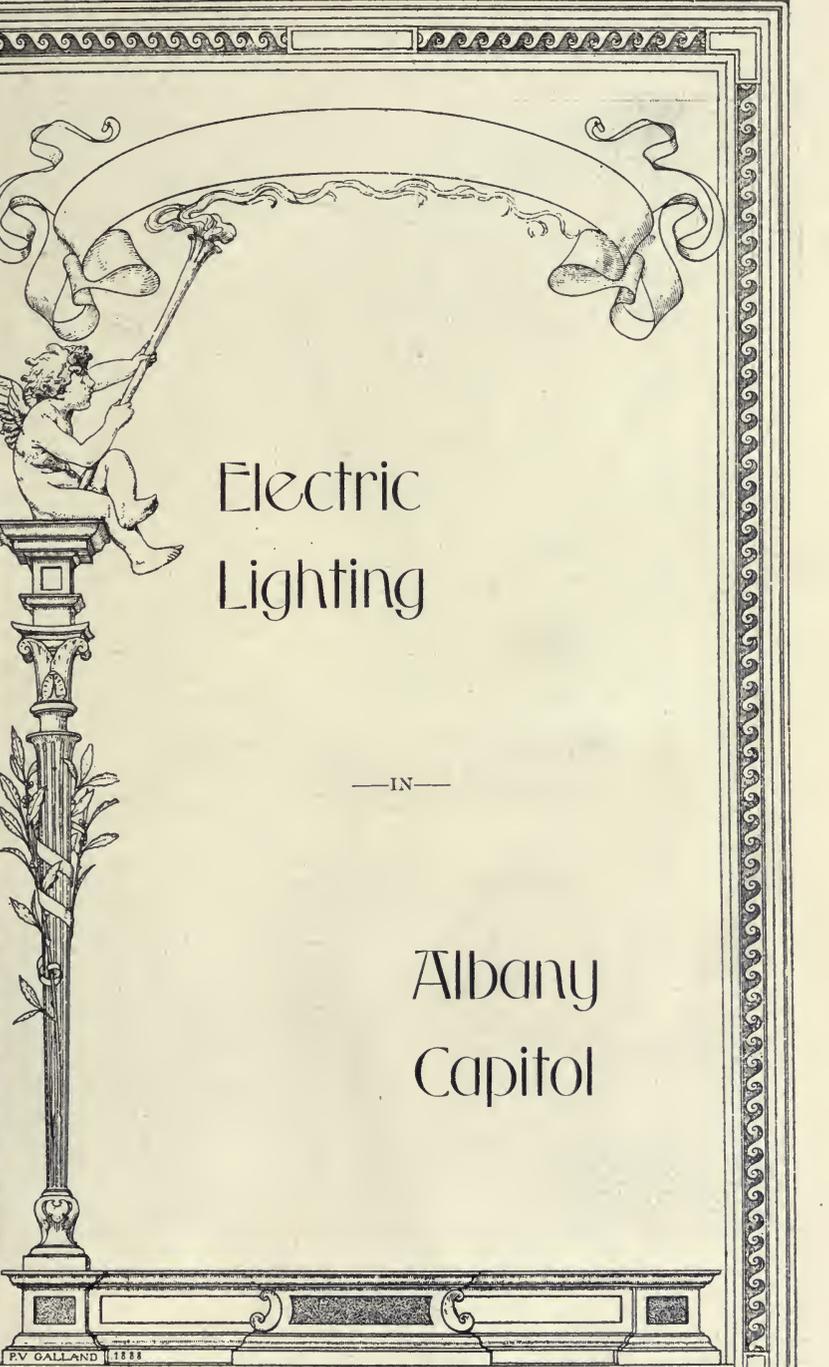
The illustrations accompanying these remarks exhibit some of the recent buildings in which stone has been used. They are not given primarily for the artistic value of their design, but rather "pour encourager les autres," and to show how in all classes of buildings alike, public, commercial, and private, our architects are returning to stone.

W. S. Adams.



Reginald T. Blomfield, Architect.

BROOKLANDS, WEYBRIDGE, ENGLAND.



Electric
Lighting

—IN—

Albany
Capitol



ON THE EASTERN APPROACH.
CAPITOL, ALBANY, N. Y.



ON THE EASTERN APPROACH.
CAPITOL, ALBANY, N. Y.



ON THE EASTERN APPROACH.
CAPITOL, ALBANY, N. Y.



ON THE EAST TERRACE.
CAPITOL, ALBANY, N. Y.



THE EASTERN POST OF THE NORTH ENTRANCE DRIVEWAY.
CAPITOL, ALBANY, N. Y.



ON THE WESTERN ENTRANCE.
CAPITOL. ALBANY, N. Y.



ON THE TERRACE OF THE DRIVEWAY.
CAPITOL, ALBANY, N. Y.



INTERIOR ELECTRIC LIGHT FIXTURES.
CAPITOL, ALBANY, N. Y.



INTERIOR ELECTRIC LIGHT FIXTURES.
CAPITOL, ALBANY, N. Y.



INTERIOR ELECTRIC LIGHT FIXTURES.
CAPITOL, ALBANY, N. Y.

ELECTRIC LIGHTING IN THE ALBANY CAPITOL.

IN this age, more than at any other previous time, science leads the way only to be closely followed by art. In the olden days art was most frequently conceived by the master mind and then the object was wrought principally for the sake of art, applying the idea mainly to buildings and a few household utensils, while scientific discoveries led to nothing save their practical application and that in the plainest sort of way. Science and art were infrequently combined then; but now art finds a means to link itself with scientific productions shortly after the announcement of the discovery. The two are linked more closely day by day, and, as one person has remarked: "America will shortly prove itself the Louvre of the world," so it is that to attain the beautiful in all things is a chief desideratum of the educated persons living in this country; that is, perfection is the object to be attained and perfection is art, for is not art represented by the perfection in building, in stone-cutting, in the printing of a book, or in the correct completion of any minor objects.

Following this line of thought, the artistic treatment of the new electric lamps at the Capitol Building of the Empire State are presented as an example, being fine illustrations of artistic designing and mechanical construction, and they add materially to the appearance of the imposing structure. In designing them prejudices had to be overcome, for it is not so easy to conceive the form for a lamp which, by its modern conception, is distinctly removed from the types in use ages ago, those which, when serving to burn candles or oil, frequently offered the artisan a form linked to mythology, and such popular conceptions as the flame of the torch of victory, of the sacrificial fire, or else symbolizing literature. Lamps of the ancients are accepted as beautiful forms for decorative designs in carving, but it is hard to regard the electric lamp in the same category. The work imposed upon the designer of these lamps was, therefore, much more difficult than had science presented him with some other form of lighting.

There is no other building in this country which has such an effective system of lighting, or that has such a massive, dignified and elegant electrolier system for distributing its light to the entire building. When all the fixtures are giving forth their rays there is presented the most beautiful exhibition of electric lighting that has ever been produced. They are grouped about the edifice, each with its many globes of light which in the darkness of night appear as "numerous as glittering gems of morning dew." The impression is that of a view conjured from the land of elves.

The effect of the lighting of the Western Staircase is perfection. An absence of all shadow is noted, demonstrating the thought that had been given to the location of the fixtures in order to avoid the usual defects encountered, and which in this case results in a more perfect light being thrown upon the elegant carvings than can be obtained upon the most brilliant, sunny day. All the outside posts and the portico fixtures are made of real bronze of the United States Government standard, exposure to the weather adding beauty to this metal, and age producing the rich, greenish effect peculiar only to high grade real bronze.

The architecture of the building has been closely followed in the designing of all the fixtures; the modern Romanesque detail has been worked out in a most graceful manner, and they represent strikingly perfect examples of art work in bronze. The enormous size and weight of several of these posts, and their perfect construction, give to them an additional value of merit, in so much that large pieces of this kind are very rarely produced without defects, whereas there are few, if any, defects to be noted by a critical examination. Credit for this skill in casting, as well as for the cleverness of the designs, is due entirely to The Mitchell-Vance Company of New York City, and these lamps illustrate the progress and ability of Americans.

The large post, designated for convenience as No. 1, is the first fixture encountered at the foot of the steps to the Eastern Approach. The total weight of this fixture, as it appears upon the post, is over one ton. It is supplied with fifty 16-candle power electric lamps, giving a total of eight hundred candle power. Design No. 2 is the large three-post standard at the head of the first run of the steps to the Eastern Approach. It is the largest of all the fixtures, and is readily recognized by the beautiful detail of work shown upon its base; the coat-of-arms of the State is here represented, and it has been admitted by experts that the modelling of this coat-of-arms is the most perfect that has ever been executed. It is unquestionably a most beautiful work of art, and will be appreciated by the many competent critics who will pass upon it. The general effect of the fixture is admirable, and it is entirely appropriate to its location. There are fifty lights within the globe of this fixture with a capacity similar to that of post No. 1, but its power is capable of being increased at any time. The total height of this fixture is nine feet and a half, and the weight about 3,000 pounds.

Design No. 3 is the third post on the stairs of the same approach, and in the opinion of many it is considered the most artistic of all the posts. It certainly is novel and yet graceful in design, denoting a bold, yet consistent, departure from the conventional patterns of post lights. Following this is Design No. 4 of the 30-light large standards, which are to be seen on the terraces of the driveway, the de-

sign of which is so appropriate to their locations that it is evident that their form was in the eye of the architect when creating the design of the stone-work for their foundation.

The fifth design represents the fifteen-light small standards on the east, north and south terraces, and, like the preceding design, shows the thought of the designer in constructing them so as to be in entire harmony with the surroundings of their location. Design No. 6 represents the large fixture on the eastern post of the north and south entrance driveway. Design No. 7 represents the fifty-light massive standards at either side of the western entrance steps. They differ in general design from any of the other lamp posts of the building, and are perfect specimens of Romanesque lamps, executed with great mechanical skill. Their weight is about one ton each.

The interior fixtures are made of brass, finished in a satin effect, great care having been taken in the construction to have nothing save the heaviest grade of metal in all the parts.

A comparison of the new fixtures with the old ones in the same building, or with those in some of the finest edifices in this country or abroad particularly, demonstrates to the most casual observer the superiority in design and construction of those recently supplied, and particularly pleasing is their suitability to the location. Some of these lamps cost three or four thousand dollars apiece, and the total cost of the work was about \$60,000.

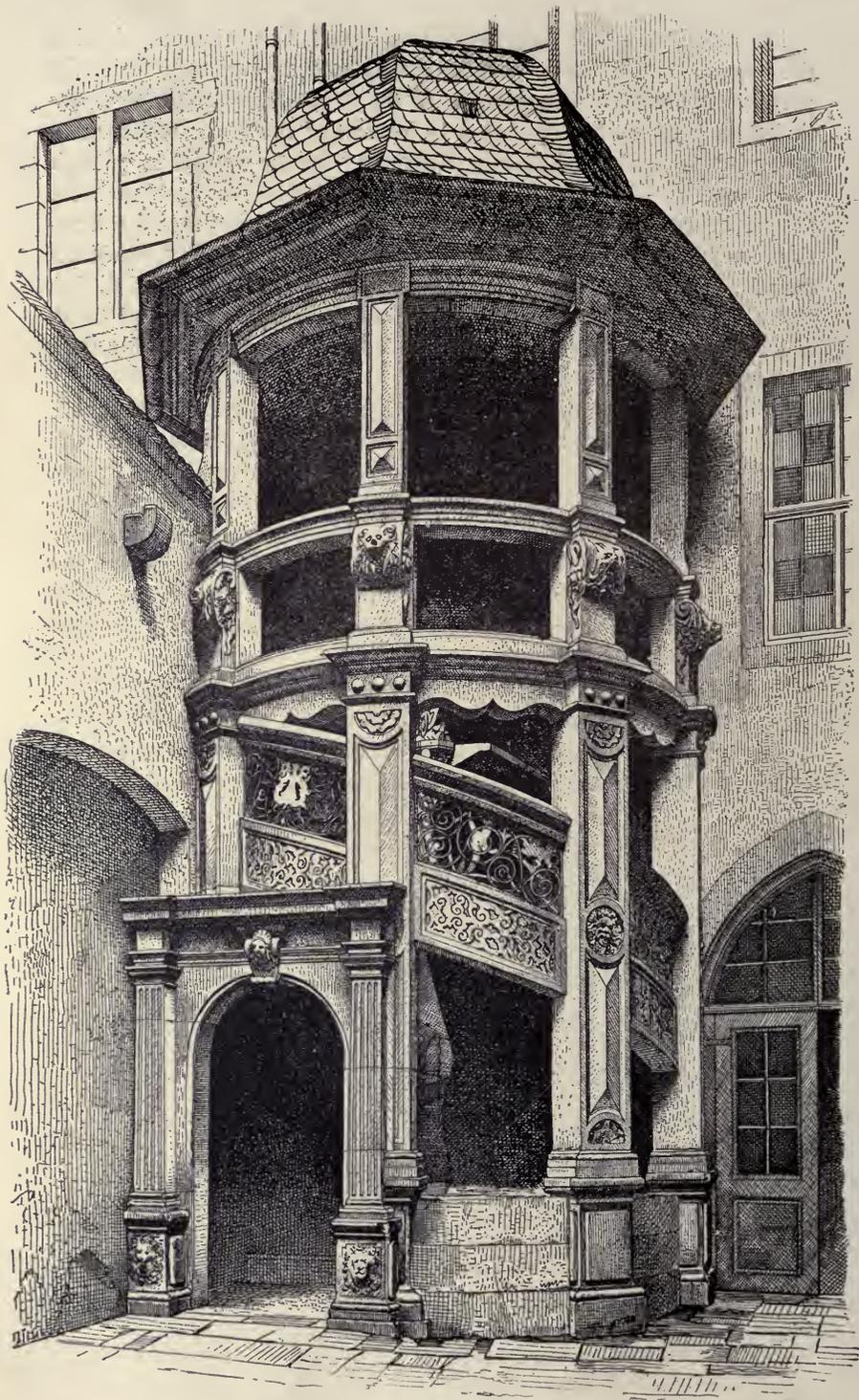
The entire contract was constructed and placed in position complete within seventy-five days, which is a phenomenally short time for such a great amount of work. No factory abroad and doubtless none other in America could have accomplished such a feat, and this stands among the few examples of large undertakings accomplished at the time set. There are no doubt fine lamps abroad, but in electric illumination there are no superiors to the ones described.

While the preceding article illustrates the progress of an important American industry, and records the wonderful achievements of The Mitchell-Vance Company in that branch of electric light fixture construction which demands the accomplishment of great artistic and mechanical results, yet the excellency of their goods is not confined alone to works of such magnitude; a similar, perhaps greater proficiency, characterizes their varied productions of electric light and gas fixtures of the more conventional kind, which are used in residences, churches, club houses and theatres. Of this class of goods their patterns and styles are legion, each one bearing the imprint of the artist's knowledge of its proper fitness for the condition it is designed to meet. In this particular, The Mitchell-Vance Company appear to have made special study, as the demands of the architects and decorators of to-day are that in modern buildings the fixture producing the artificial light must needs be a consistent, yet not too important feature of the surrounding decorations.

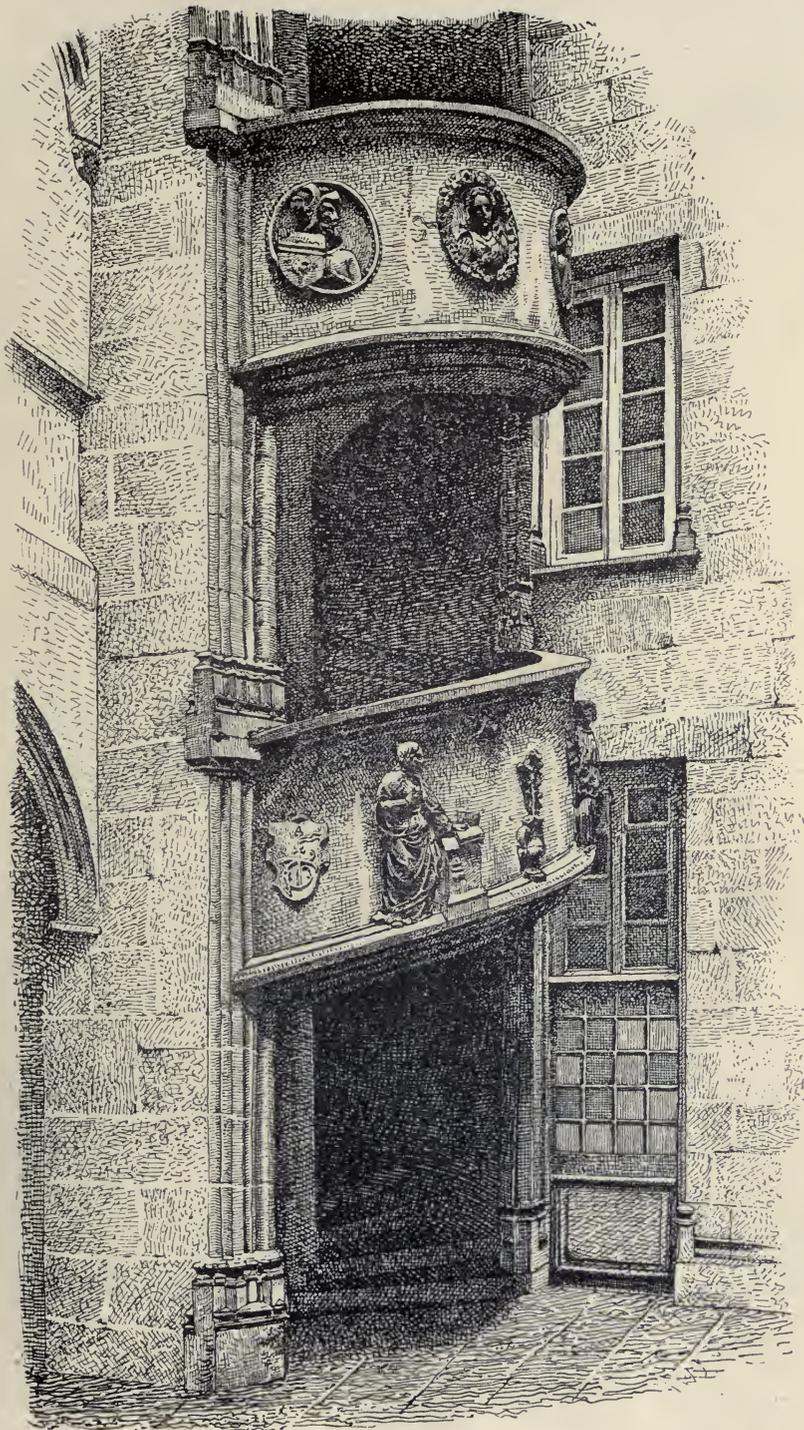
For many years this Company has enjoyed the distinction of being the largest manufacturers of these goods in the world, and under the present progressive management of the organization, they are continually adding to its reputation by reason of the high artistic quality and construction of their productions. In the execution of their work, one striking feature is always manifested, that whether the fixture be an intricate and costly one for the adornment of a mansion, or of the simpler and less expensive kind for the moderate dwelling, the same care is exercised in the correctness of its design and a uniform consistency is shown in the completeness and finish of its detail. This distinctive feature is largely responsible for their success.

In addition to the manufacture of lighting fixtures, The Mitchell-Vance Company execute all descriptions of ornamental cast and wrought bronze work for stairs and office rails, gates, doors, posts, tablets, and clock frames, in accordance with architects' and decorators' own designs and suggestions. This branch of manufacture has been followed in a moderate way during the fifty years that the concern has been established, but within the past year or two, this department has been enlarged and made an important and successful feature of their business.

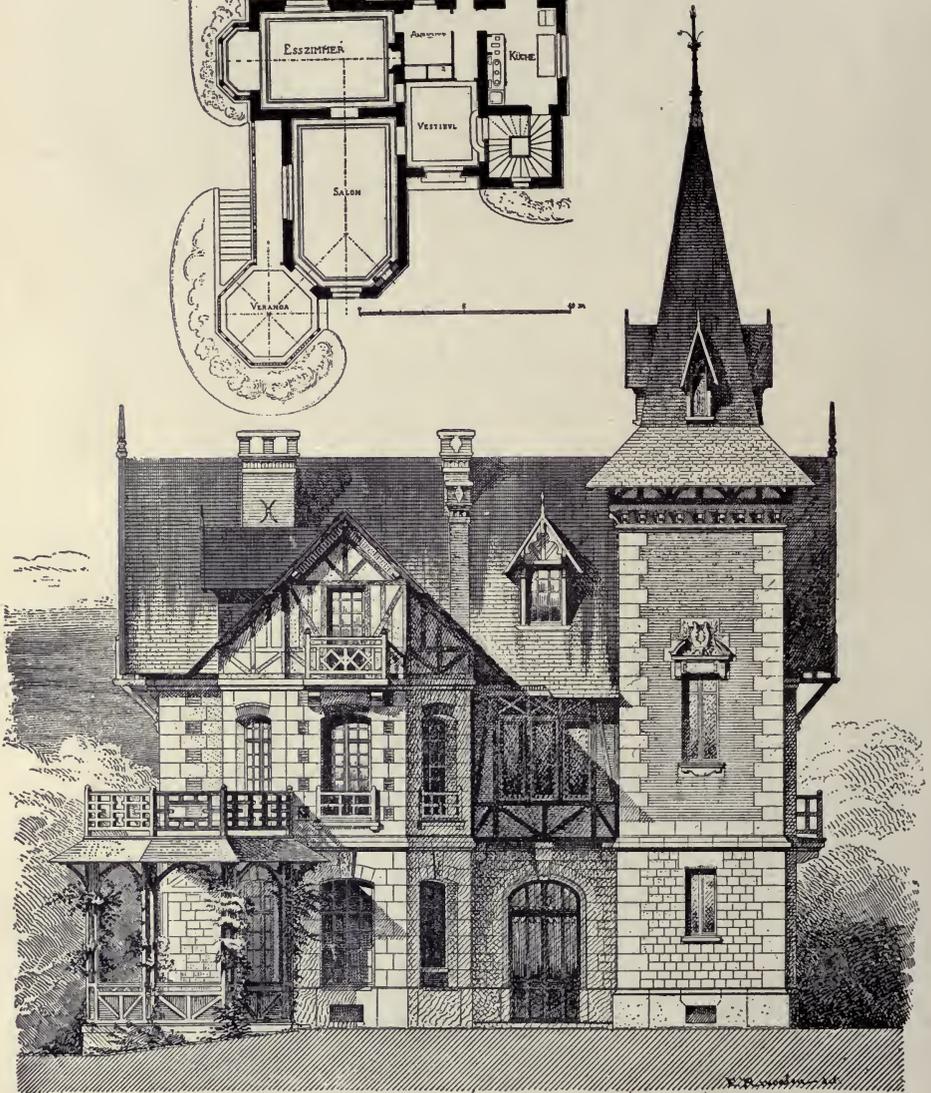
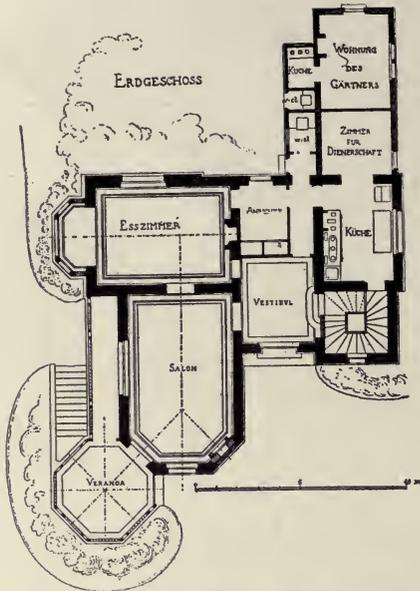
With their extensive equipment and plant, there is no undertaking too great for their resources, and the thorough business-like policy of the concern is demonstrated in its careful and courteous attention to the smallest wants and desires of its patrons.



STAIRCASE AT FRANKFORT, GERMANY.



STAIRCASE AT RIOM, PUY DE DOME, FRANCE.



J. Guette, Paris.

FRENCH VILLA.