

PRICE 15 CENTS.

MAY 5, 1894.

THE
AMERICAN ARCHITECT
AND BUILDING NEWS

VOL. XLIV.

* REGULAR EDITION *

NO. 958.

ARCHITECTURE

ENGINEERING

DECORATION

211 TREMONT ST.

CONSTRUCTION

BOSTON, MASS.

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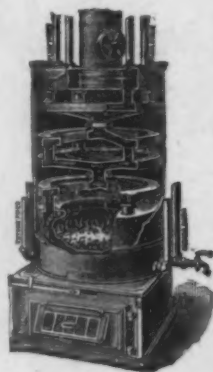
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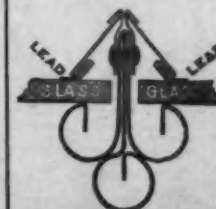
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THE AMERICAN ARCHITECT AND BUILDING NEWS.

VOL. XLIV.

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No. 958.

Entered at the Post-Office at Boston as second-class matter.

MAY 5, 1894.



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THE New York *Sun* has an account of the competitive designs for the decoration of the Oyer and Terminer court room in the new Criminal Courts building in New York. It will be remembered that the decoration of this room is the first important enterprise of the New York Municipal Art Society, and the competition instituted by the Society for selecting the designs has certainly been signally successful. Although the work of executing the decoration does not form a very important commission for a painter of distinction, the cost being limited to five thousand dollars, from which is deducted the five hundred dollars advanced in cash as the first prize, designs were received from forty-seven competitors, the list of competitors including the names of such noted artists as Mr. E. E. Simmons, the winner of the first prize, Messrs. C. L. Turner and Walter Shirlaw, who received the second and third prizes, Mrs. Rosina Emmet Sherwood, Mr. Will H. Low, Mr. Henry Sandham and Mrs. Whitman, of Boston, and many others. Judging from what the *Sun* says of them, the competition will have done a good deal to instruct the participants, as well as other artists, in the necessary qualities and limitations of decorative composition, to say nothing of judgment in the choice of subjects. For example, Mr. C. S. Reinhart, whose capacity for effective composition is known to nearly every one, could find nothing better as a decoration for a criminal-court room than a representation of a hanging; while Mr. Arthur B. Davies seems to have felt himself under obligations to strike a blow for socialism, by introducing a procession of personifications of coercion, instinct, autonomism, intelligence, wisdom, industry, justice and so on, typifying, as he explained in his description, the development of the race "from the lower to the most perfect state of intelligence, and happy adjustment of artificial conditions." Mr. Shirlaw's composition, which received the third prize, is exclusively feminine. In the middle are two large personages, which, judging from the *Sun's* illustration, appear to have been intended to typify Conscious Innocence and Cross-examination, but are labelled "Justice and Mercy." On one side of this group is a bevy, or, we suppose we should say, a gang, of three females, of smaller dimensions, who represent, as the inscription underneath says, "Crime," although the *Sun's* rendering of the attitudes and costume suggests rather the consequences of an indigestible lunch at a summer picnic than consciousness of guilt. Naturally, the pendant to this group is formed by another, marked "Law," and representing three fair students, bending over a volume which evidently treats of the moral branch of the sub-

ject, as it opens about four feet wide. There is a certain want of scale between the middle group and those on each side, which has been happily avoided by Mr. Simmons, in the design placed first, by setting his central figure, the space for which was fixed by the conditions of the building, on a pedestal, with two supporters at her feet. On each side is a rather formal group of three figures, symmetrically arranged, and representing, as we are told, Liberty, Equality and Fraternity on one side, and Youth, Maturity and Old Age on the other. If there had been room for another group, one would think that Reading, Writing and Arithmetic would have rounded out the series nicely; but there was only a small space above the panels, which Mr. Simmons utilized for two cartouches, containing symbols which the *Sun's* picture leaves somewhat indeterminate. So far as can be judged from such representations, Mr. Simmons's design is at once decorative and interesting, and, apart from details of drawing and coloring, it would be hard to find higher praise for any work of painting applied to building. Mr. Simmons proposes to paint his picture in wax medium, to avoid the gloss of oil, and if subscriptions come in as is hoped, it will be done by the end of the year.

EVERY one who cares for archaeological and artistic learning will regret to hear of the death of Mr. Thomas W. Ludlow, the Secretary of the American School of Classical Studies at Athens. Mr. Ludlow was a young man, having graduated from Harvard College in 1882, but his reputation as a scholar has long been established. Before his graduation from college he spent a year in Greece, and never lost the enthusiasm with which he was then inspired. From the time of the establishment of the American School at Athens he devoted himself to its interests, and the studies with which he endeavored to add value and accuracy to his editing of its publications won for him many honors from learned societies abroad, as well as at home.

MOST of our readers have probably heard of the great experimental forestry station and nursery which Mr. George W. Vanderbilt, of New York, is laying out on his country estate in North Carolina; but few of them, probably, are aware that Mr. Vanderbilt has already growing more varieties of trees and shrubs than are to be found in the Royal Botanic Gardens at Kew. The estate includes about seventy-three hundred acres, about half of which is woodland. When Mr. Vanderbilt came into possession, most of this woodland had been for many years ravaged and wasted in the manner characteristic of American forests in general, and of North Carolina forests in particular. The valuable trees had been cut down as fast as they grew large enough to bring the cost of cutting them; the worthless species had been left, to go to seed and drive out the better sorts; the most convenient hillside had been completely stripped for firewood, when it suited the natives to lay in a stock of fuel, and, worst of all, what little effort the valuable vegetation made to recover itself was summarily suppressed by burning over the ground, and then turning in cattle to eat off the tops of whatever little white-oak and maple trees were venturesome enough to show themselves above ground. For the rescue of his land from its present woful plight, Mr. Vanderbilt has, as the *Scientific American* tells us, consulted an expert forester, Mr. Gifford Pinchot, under whose direction it is intended to treat the larger part of the wooded territory as such property would be treated in France or Germany, regarding the trees as a valuable crop, to be judiciously cultivated, and utilized in such a way as to make it produce its due part of the permanent income of the estate; while another portion is to be reserved for an arboretum, in which the constitution, so to speak, of our most valuable native timber trees is to be thoroughly studied, and foreign species, suited to the climate of North Carolina, are to be domesticated, and, if desirable, propagated on a large scale. It is hard to see how Mr. Vanderbilt, whose thoughtful liberality is well known in our profession, could have devised any plan by which he could be of more use to his fellow-citizens. To say nothing of the great benefits which American scientific forestry will derive from the experimental portion of the undertaking, the influence for good upon neighboring proprietors of the sight of a properly conserved private forest—the first in the United States, will be incalculable. It is not many years since a tract of three

hundred thousand acres of forest land in Virginia was sold in New York, at public auction, for less than one cent an acre. If this is the value set by the present generation on a description of land which would be considered in Germany or Russia as one of the most precious of all possessions, it may be imagined that little less than a miracle will be required to instil proper views of the subject into the existing owners of such territory, and if Mr. Vanderbilt, and his sons after him, succeed in establishing in North Carolina a nucleus of rational forest management, they will have deserved well of their country.

A POINT has come up in London, where a draft of a new Act of Parliament for the regulation of streets and buildings is under discussion, which has, so far as we know, never before been connected with modern building-laws. Most building-laws regulate indirectly the projection of cornices of buildings, by providing that all cornice stones shall balance on the wall, but we have never seen one that absolutely restricted the projection of the cornice. The proposed Act, however, limits absolutely the projection of cornices to two and one-half feet from the face of the wall, whatever may be the style of the building. At a meeting of the Royal Institute of British Architects the other day, Mr. H. H. Statham, the editor of the *Builder*, and an architect of great experience, presented some drawings and figures to show the distressing effect which would be produced by the enforcement of this rule. The Riccardi Palace in Florence, as he had ascertained, had a cornice of nine feet projection; the cornice of the Strozzi Palace projected nearly eight feet, and that of the Guadagni Palace seven feet. He showed a section, at one-fourth the actual size, of the cornice of the Strozzi Palace, with another one, showing it reefed in to conform with the proposed regulation. Of course, it is not necessary to build imitations of the Riccardi Palace in London, but as he reminded his auditors, there is just now an active revival of Classic and Renaissance architecture, and a limitation of the sort would greatly hamper the designers of monumental or public buildings. He thought that the limit should be extended, or that the city authorities should have the right to waive it, in their discretion, so as to admit of the carrying-out of Classical or Renaissance designs of an imposing character. As there are signs that a similar movement for restricting cornices may occur in this country, it will be well for the profession to be on its guard. We have no desire to see the streets of our cities darkened by cornices of undue projection, but our streets are usually wide enough and sunny enough to bear an occasional "cornicione" without harm, and one of the most important aids to noble and dignified effect would be taken from us if projections at the top of buildings were restricted.

A RATHER interesting decision was given the other day in a German court. The purchaser of a house brought suit to have the purchase annulled, and his money paid back to him, on the ground that the seller had knowingly and fraudulently concealed from him the fact that the timbers of the house were suspected of being infected with dry-rot. It did not appear that there was any certainty of it, but it was proved that, some years ago, signs of rot appeared, and a preservative was applied, and that, as the seller knew, there was reason to think that the application of the preservative had not resulted in eradicating the evil. The defendant's counsel claimed that fraudulent concealment could only be claimed in relation to something which it was essential for the purchaser to know, and that it was no part of the seller's duty to inform the purchaser of all the circumstances relating to the property. If this were required, he said, trade, and still more, speculation, would come to an end. The court rejected this plea, saying that, while the argument might be good within certain limits, it did not apply to such a case as that in question. In that there was no question of indifferent circumstances, which it might possibly be useful to the purchaser to know, but of a concealed defect, known to the seller, but not to the buyer, in regard to which the seller must have known that, if the buyer knew of it, he would not take the house. Concealment, or neglect to give warning, of such a defect as this constituted fraud. The defence overlooked the fact that the purchaser, against his wish, had become possessed of a house suspected of dry-rot; and that this had been brought about purposely and craftily by the seller.

THE Royal Museum of Art Industry, at Berlin, is just now occupied by an exhibition of American productions, of which the *Deutsche Bauzeitung* gives a short description, accompanied with a discriminating criticism. Like other foreigners, who have inspected such work in this country, the editor of the *Bauzeitung* finds, in most cases, that the goods shown are not sufficiently American. They have what he happily calls an "American patina," but the substance is, in design, English, or Dutch, or French. He makes, however, an exception in favor of American glass and metal-work. The Tiffany Glass Company, the Bergmann Fixture Company and the Archer and Pancoast Company, of New York, and the Wells Glass Company, of Chicago, are represented by gas and electric-light fixtures which, as he says, are always interesting and characteristic, and, if not always remarkably beautiful, are not ugly. Apart from the novelty of the materials and combinations employed, and, in some of the work, the successful adaptation of natural forms, he observes that the Americans seem to have a faculty of making-over the commonplace artistic forms. Motives which, as he says, in Germany "lie in the streets," simply because they are so old and familiar, are taken by the Americans, and combined in some clever and novel way, so that, while they are immediately recognized, they have a new charm.

AS to the iron-work, the editor of the *Bauzeitung* finds most interesting the elevator cars and enclosures from the Hecla Architectural Bronze and Iron Works of New York. The metal is used in simple forms, usually in thin ribbon, but these are twisted and knotted in such a way as to give an effect which he finds rich and pleasing. American wall-papers and furniture are also shown in the exhibition, but judging from the description, which characterizes the wall-papers as English in pattern, the best work of our designers is not represented. The furniture, when it goes beyond the simplest pattern, is spoken of as English or French, the theatre-chairs which fold up into a space six or eight inches wide, only exciting the critic's admiration.

SOME ingenious amateur photographers among our readers may like to repeat the experiments recently made by M. Boutan, a distinguished member of the Paris Academy of Sciences, in photographing the bottom of the sea. Where an electric arc-lamp could be made available, this would give an excellent light for such photography, but M. Boutan was not able to employ such an apparatus, and took his pictures with the aid of a magnesium flash-light, enclosed in a glass globe, and operated in the usual manner, by pressing a rubber bulb. As, however, the combustion took place under water, it was necessary to supply oxygen for it, and provision was made for the purpose by mounting the flash-light and its globe on top of a barrel, made air-tight, and sunk, by weighting with pig-iron, to the requisite depth. In order to prevent the hydrostatic pressure from injuring the barrel or lamp, a large rubber ball, filled with air, was attached to the outside of the barrel by a tube. As the barrel sank, the rubber ball was compressed by the water, which forced the air contained in the ball into the barrel, so that the equilibrium between the water-pressure outside the apparatus, and the air inside, was constantly maintained. The camera was one of the ordinary detective sort, enclosed in a watertight box, also furnished with a rubber ball for maintaining the air-pressure, and provided with a plate-glass window, in front of the camera lens. This window was colored blue, it having been found that such a tint is desirable to correct the color of the water. The method of exposing the plate is not precisely described in *Le Génie Civil*, from which we borrow this account, but an ordinary pneumatic release, with a long tube, would probably answer every purpose. M. Boutan used finders, apparently inspected through a water-telescope, to ascertain when his camera was directed at a suitable view, but in most cases this would be impracticable, and the operator would have to depend on having his camera hang level just above the bottom. Two of M. Boutan's photographs, one taken by daylight, at a depth of sixteen feet, and the other by magnesium light, at a depth of about thirty feet, are reproduced in *Le Génie Civil*, and, while they do not show anything more wonderful than sand and stones and seaweed, they are quite clear, and it is conceivable that, out of a considerable number of negatives, some might show episodes of submarine life which would be of great interest.

STYLE.¹—II.

WE beg the reader's pardon for this too lengthy digression; let us now seek out, among philosophical artists, those who have exercised the most potent influence on their period and analyze their works. These are: Ruskin, in England, and Semper, in Germany.

The artistic philosophy of Ruskin rests on the two elements in man, the ideal and real; he is thus enabled to keep within the limits of the just, escape the errors of imagination and shun the vulgarity of materialism. He premises that man is subject to the laws of toil, of sorrow and of joy, and shows that his senses which react under the sway of these three laws, owing to the choice that is left to him of the path traced between the two factors put at his disposition, permit his passions to have a noble side and a base side. It is, he says, the rôle of art to make one appreciate healthy enjoyments in the order of the senses. Lawrence Harvey, a member of the Royal Institute of British Architects, notes, in a work on Ruskin, that the foundation of honesty which forms the basis of artistic criticism allows him to give his hand to Henri Labrousse.

Ruskin begins with this dictum: know what you have to do and do it. In fact, failure is more often attributable to a confused understanding of the thing to be done than to the insufficiency of means. Hence, the first thing to seek in architecture is the principle around which consequences are grouped. These fundamental principles Ruskin calls "the lamps of architecture," and he indicates seven of them: the lamp of sacrifice, the lamp of truth, the lamp of power, the lamp of beauty, the lamp of life, the lamp of memory, the lamp of obedience.

The *lamp of sacrifice* is the unreasoning spirit, which employs for works of an elevated order, such as temples, tombs and palaces, the most precious materials, without ostentation, but as an offering of that which one esteems most highly; and this costly material is to receive from man's hand work proportioned to its value.

The *lamp of truth* is the spirit that scorns all falsehood, either in the nature of the materials, or in their use, or in the destination of the edifice itself. This is the price of the nobility of architecture.

The *lamp of power* belongs to the natural world, while the first two pertain to the moral order. The power of nature lies in the severe majesty of the phenomena which she offers us and in the contrasts which comparison brings out between the size of the principal and the minor importance of the secondary.

The *lamp of beauty*, says Ruskin, can be lighted only at Nature's sources, and all human works are unworthy of the name "beauty"; therefore, he criticises trophies, vases and even wreaths, which, he says, are works of man.

Ruskin seems to us to carry his scorn for human productions somewhat too far.

The *lamp of life* is the peculiar expression given to every part of an edifice, to make one comprehend the existence of the person whom it shelters, and Ruskin, extending this theory, advances the statement that the most powerful element of life, in architecture, is the irregularity and necessary imperfection of certain parts.

The *lamp of memory* is that solidity bestowed upon architecture which enables it to recall to future generations the memory of their ancestors. We regret, here also, that the author makes no reservation. This solidity, which must be given to temples, would seem to us inappropriate for any edifice whose use would be liable to be modified with social progress.

The *lamp of obedience*. Here Ruskin has dreamed of a single national school of architecture, as, he says, we have but one national tongue; and he makes vigorous opposition to what he styles individualistic anarchy; finally, he pronounces himself in favor of adopting in England a Gothico-Lombardo-Venetian style, which seems to him best adapted to the genius of his country; and to this style every artist should render obedience. We fear that, thus fettered, artistic flight would become at once impossible among our erudite neighbors.

Let us seek to learn the secret of the artistic aspirations of another great nation of the North. The study of the works of Semper will reveal the philosophical ideas of Germany on architecture.

After remarking that notions of art have developed among the different people simultaneously with the ideas of liberty and with national sentiment, Semper takes as the starting-point of his critical analysis of architecture the monuments of antiquity; he shows the intimate relationship between construction, sculpture and painting existing in Egyptian, Greek and Roman architecture; but he proclaims the hegemony of architecture over the other arts, in order to preserve the *unity* necessary to the character of the work. Semper adds that this fraternization of the three arts continued down to the Gothic of the fifteenth century. Passing then in review the ancient monuments, Semper declares in favor of Greek architecture, the only means, he thought, of lifting Germany above other nations, the only architecture which we were to interpret and adapt to our needs. In that way, reasonable *beauty* proceeding from the *true* would be obtained, without making a copy of Pagan architecture; such an imitation would remain expressionless among modern nations, whose *manners* are so different from those of the ancients and whose needs are wholly unlike theirs. *Proportion of forms*, the use of *sober sculpture* and *decorative painting* upholding these forms, giving to the shadows and lights play of infinite charm and bringing out the *essential parts of the construction* are the resources to which the architect must turn to animate the stone and impart life to his work. It is only, says this able critic, at a less noble period, that prominent projections covered over with carving were admitted into the interior of monuments to conceal the bareness of the walls without giving the forms—left aimless—any greater appearance of conformity to their *destination*. Sculpture, when simple, is an accompaniment of the chief form and adds to its value; if allowed to hide it, it detracts from its *power*. Semper criticises paintings in frames, having no well-defined aim, as strongly as he praises the use of decorative painting; he is also radically opposed to the introduction of mosaics into mural ornamentations and would restrict their use to pavements. Architecture, he observes, is of no account except in its object, and this object varies with the monument; architecture cannot, therefore, be fixed in its forms, its *destination* depending upon variable *needs*, while its *principle*, based on humanity, remains constant; lastly, the materials must find a *natural* application in the structure. As the result of his study of antique monuments, especially of the Greek, Semper came to prefer this last-mentioned architecture to all others; unfortunately, without taking into account his teachings, those who have followed his doctrine have not always apprehended its philosophical bearing and have made it *absolute*; thus they stifled for a long time in Germany all the original impulses of official architecture, and they are open to the charge of an almost complete disregard for comfort. But we must not make Semper responsible for the errors of those who have but imperfectly interpreted him. However this may all be, although Semper's doctrines may have exercised a considerable influence on the architecture of his country, it has not been felt on private edifices; these have retained their national character and have continued to draw inspiration from the Gothic and from the German Renaissance.

[To be continued.]

THE ITALIAN RENAISSANCE.²—II.

HINTS TO TRAVELLING STUDENTS.

BETWEEN Naples and Rome there is very little of interest to the student of the Renaissance. Indeed, there are not many routes of the same length (154 miles) between important Italian centres, which pass through so few places of architectural interest. Northern and central Italy seem always to have been regions of more intense life and activity, both intellectual and political, than the southern half of the peninsula. This is even true of Classic times, if we except the Neapolitan territory and some parts of Magna Græcia, including Sicily.

After leaving Caserta the architect will hardly find it worth his while to "stop off" on his way to Rome, except at Capua and Monte Cassino, and at these points he will find the chief interest to lie in the ruins of the two great Roman amphitheatres which they possess, and not in any Renaissance monuments of importance. It is true, one may find in nearly every Italian town or village, vestiges of the predominant bad taste of the decadence of the seventeenth and eighteenth centuries, in the form of church-façades of uninteresting design or the far worse stucco abominations with which the sanctuaries, or whole interiors, of many of the new or old churches of that time were disfigured. Occasionally one may encounter an arcade, a court-yard, a doorway, or a façade of genuine

¹ From the French of Léon Labrousse, in Planat's *Encyclopédie de l'Architecture et de la Construction*. Continued from No. 957, page 40.

² Continued from No. 957, page 41.

elegance of design, well worth a thumb-nail sketch or a snap of the kodak, though unnamed in the guide-books. But these "finds" are the exception: "when found," they should certainly be "made a note of." Three and a half months, however, will leave very little time for out-of-the-way explorations, if one is to study the great monuments of the Renaissance with any care or detail.

The tourist in search of novel experiences, may, however, care to spend a night with the monks of the Monte Cassino theological seminary, where he will receive gratuitous hospitality in true mediæval fashion. Baedeker promises him comfortable lodging, but scanty fare, and whispers in his ear that the gratuitousness of the hospitality should be recompensed with a proportionate gratuity at the average hotel rates. This is, perhaps, a low price to pay for so unique an experience, especially as that includes an unusually fine and extensive prospect of the Garigliano Valley. The church was built in 1727.

Omitting here any reference to Frascati with its villas and its Roman ruins, we come at once to Rome, in which a stay of nearly four weeks is scheduled for the class.

The influence of the Renaissance, which originated in Florence, had already filled the cities of Tuscany and Lombardy with buildings of great beauty and singular grace and originality of conception before it made itself felt in the architecture of the Eternal City. The Popes had returned to Rome from Avignon; the Humanistic movement had reached the Pontifical circles, and Brunellesco, Alberti and Donatello had already carried back to Florence the inspiration which they had drawn, in copious draughts, from the fountain-heads of Classic art in the ruins of the ancient city, where, in 1450, Pope Nicholas V, himself a Humanist, conceived the scheme of rebuilding the crumbling church of St. Peter's—the first stirring of the renaissance of architecture in Rome. The scheme was not realized; but during the pontificate of Sixtus IV (1471–1484), several important works were carried out in the new style; notably the palaces of Venice by Alberti (1404–1472) and Pintelli (—1490), the façade of S. Pietro in Vincoli and the Sistine Chapel of the Vatican. Important as are these works as marking the advent of the Renaissance to Rome, they are far inferior to the palaces and churches erected in Florence, Pavia, Bologna and Venice at the same or even much earlier dates.

It was the coming of Julius II to the papal throne and the summoning to Rome of Bramante (1444–1514), Peruzzi (1481–1536) and Michael Angelo (1475–1564) that laid the foundation for the glories of modern Rome. From 1503, when Bramante arrived from Milan, on until the Decline, Rome was the focus of Italian architectural activity, hardly interrupted even by the invasion of Charles VIII of France. All the great names among the cinquecento architects are represented here except Palladio and Scamozzi: and what a brilliant roll they make! Bramante, Peruzzi and Raphael; Giuliano and Antonio da Sangallo; Michael Angelo, Andrea Sansovino and his pupil, Giacomo Tatti, afterwards so famous for his works in Venice; Vignola, Ammanati, Pirro Ligorio and Della Porta; Martino Lunghi and Domenico Fontana; each of these has left his impress upon the aspect of the city, in most cases by a masterpiece, or several of them; while most of them were at one time or another associated in the building of St. Peter's and the Vatican. Then succeeds, with the advent of the seventeenth century, the period of decline. The terrible trio, Bernini, Maderno and Borromini, high-priest he of Jesuit monstrosities, perpetrated their various architectural crimes or platitudes, followed or partly accompanied by less conspicuous and more inoffensive designers like Carlo and Girolamo Rainaldi, and di Rosso; Nic. Salvi, Ferdinando Fuga, and Alessandro Galilei in the eighteenth century.

The Renaissance monuments of Rome divide themselves into two main classes; those which constitute complete and independent structures, and those which are merely parts or modifications of older buildings. In secular architecture the former class predominates; in ecclesiastical the latter, especially in the seventeenth and eighteenth centuries. There is hardly an early Christian basilica that was not "done over" during the Renaissance or the Decline. Some of the most beautiful work of the Roman cinquecento is to be found in the new ceilings, façades, porches or chancels of older churches, in chapels added to them, or in tombs and monuments erected within them. On the other hand, the most shocking atrocities of the Jesuit Borrominesque style are found disfiguring the interior or the façades of early churches worthy of a better fate. In the appended lists only a very small proportion of these alterations and minor works can be given, and only the most important of the many scores of palaces and larger dwellings with which the Renaissance enriched Rome.

In Rome were developed and brought to their highest perfection the two most characteristic features of the Italian Renaissance, the court yard surrounded by arcades, and the dome with a lantern over the intersection of nave and transept. The earliest arcades of the Renaissance are found in the cloisters of Florentine monasteries, and their prototypes are seen in the celebrated and picturesque Roman cloister-arcades of St. John Lateran and St. Paul beyond the Walls—works of the thirteenth century. All the earlier arcades consist of arches carried by columns; they are light and graceful, but lacking in strength and constructive propriety. The arches with the spandrels and wall they sustain can be but little, if at all, thicker than the upper diameter of the shaft of the columns, which makes them look lean and poor; while the columns are incapable of

resisting the outward thrust of the arcade-vaulting, and recourse must be had to tie-rods of iron, a pitiable and disfiguring makeshift, to hold it together. The Roman arcades—those, at least, built subsequent to 1510, and many of earlier date—are of the antique Roman type, the arches being supported by massive piers fronted by decorative columns or pilasters carrying complete entablatures above the arches. The revival of the antique style of arcade made it possible to dispense with tie-rods and to give the arch-soffits the necessary depth and massiveness. The Farnese court-yard is the finest example of this kind, as that of the Cancelleria is of the earlier type. In Roman court-yards, moreover, the arcades rarely carry the façades of the court, which are set over the rear walls of the galleries, as in Milan and Bologna.

The dome crowned by a lantern was undoubtedly an invention of Brunellesco's, but reached its highest development in Rome, not Florence. The domical churches and chapels of Rome are legion, and there are very few among them, even of late date and otherwise inferior design, which are not worthy of some attention and study for the beauty and elegance of their domes. They form an extremely picturesque feature of the panoramas of the city from almost every point, the superb and unrivalled cupola of St. Peter's being everywhere visible, overlooking them all.

The architectural student can, furthermore, acquaint himself better in Rome than anywhere else with the possibilities and properties of the Classic orders as elements in monumental design, both for interior and exterior architecture. In no other city are they handled with more taste, refinement and skill, better composed, or treated with greater correctness, variety and appropriateness. On the other hand, the best examples among the palace façades of Rome are object-lessons in the supreme value of fine proportions, carefully profiled mouldings and cornices, and skilful fenestration as resources for architectural effect without recourse to any use of the orders or of elaborate detail and applied decoration.

Architectural landscape-gardening also, to the importance of which we Americans are at last beginning to open our eyes, may be studied to advantage in the splendid gardens of the Villa Borghese and the Vatican, while, among examples of modern architecture, the monument to Victor Emanuel and the new Museo Nazionale are well worth more than one visit.

Bibliography.—This is extensive for the period of the Renaissance, and still more so for the antique city. In the former category it is doubtful if anything will ever supersede the two monumental works of P. Letarouilly, "*Edifices de Rome Moderne*," 3 vols., folio, of plates and 1 vol. 4to of text—the latter hardly less interesting and valuable than the plates—and "*Le Vatican*," a huge portfolio of plates without text. Both these works have long been out of print, and are costly (especially the second named) when they can be found at all on the market. But they can be studied in the larger libraries, and no student should fail to go through them carefully if he would learn anything about the Italian Renaissance, or expects to visit Rome itself. They are unsurpassed among architectural works for the delicacy, minuteness and fidelity of the engravings, and the suggestiveness and vivacity of the text—a veritable mine of historical and critical information.

Another excellent French work, but much smaller, is Percier and Fontaine's "*Palais et Maisons de Rome Moderne*," 1 vol., folio, of plates, and its companion, "*Maisons de Plaisance des Environs de Rome*," by the same authors.

Other illustrations of Renaissance monuments may be found in the heliotypes of the Schutz portfolios, "*Die Renaissance in Italien*," while nearly all the more important among them are described and a few illustrated, in Lübke's "*Geschichte der Architektur*," pages 705–742, and Fergusson's "*History of Modern Architecture*," new edition (1892). See also Palustré's "*L'Architecture de la Renaissance*," first book, and Gwilt's "*Encyclopædia*," Part First. Peyer Im Hof has elevations of many of the palaces and churches; and Tosi and Becchio's "*Altars, Tabernacles and Tombs*" illustrates a number of important sepulchral monuments in various churches.

Among guide-books one may mention, besides Baedeker and Murray, A. J. C. Hare's "*Walks in Rome*," a bulky and inconvenient volume for the tourist, full of quotations and annotations, but not especially useful to the student of Renaissance architecture. Of the two standard guide-books, Baedeker's is the more compact and superior in its copious tables, lists and admirably clear and accurate maps and plans. Its arrangement is topographical; Murray's is topical—palaces, churches, museums, etc., being described in groups, making it very convenient for reference to given subjects.

On ancient Rome the books are legion; I will only mention two handy volumes for the student, Lanciani's "*Ancient Rome in the Light of Recent Discoveries*," 1 vol., square, 8 vo.; and Middleton's "*Ancient Rome in 1888*," 1 vol., 8 vo.

The following list of monuments of the Renaissance in Rome is largely based on Letarouilly; it does not pretend to be by any means complete, much less exhaustive, but enumerates all the most celebrated examples and a number of those less famous besides. Obviously another person might select these quite differently, and there are scores and hundreds of minor works which the student will see and admire.

For the sake of convenient reference I have grouped them according to the character of the building: first, the religious monuments, then the palaces and villas, and finally, fountains and decorative works, each list being arranged in an order at least approximately

chronological. In the case of buildings erected partly in one and partly in another period, or several times restored and altered, it has been thought best to group in parentheses the successive alterations, and then to repeat these in their proper chronological sequence.

I.—CHURCHES OF THE RENAISSANCE IN ROME.

A. CHURCHES OF THE FIFTEENTH CENTURY.

1. SANTA MARIA DELL' ANIMA: erected 1400, but remodelled 1500-1514 by Giuliano da San Gallo, and quite recently "restored" internally (see below).
2. SANTA SABINA: a Medieval basilica of the Early Christian type, with antique columns, partly modernized in 1441 and again in 1587.
3. SANTA MARIA IN TRASTEVERE: a twelfth-century basilica remodelled in 1450 by Bernardo Rossellini.
4. SANTA MARIA IN ARA COELI: another Medieval basilica with ancient columns, restored in 1454 and adorned with a rich ceiling about 1590; several tombs and paintings of the fifteenth century.
5. SAN MARCO, (connected with the Palazzo di Venezia): an ancient basilica remodelled in 1468 with a new ceiling and a handsome vestibule, perhaps by Giuliano da Majano; further altered internally in the seventeenth and eighteenth centuries.
6. S. PIETRO IN MONTORIO: the first complete Renaissance church in Rome in 1472; usually attributed to Baccio Pintelli (altar-piece by Vasari; in court, the famous Tempietto of Bramante).
7. SISTINE CHAPEL OF VATICAN: 1473, by Giovanni dei Dolci (usually attributed to Baccio Pintelli [Letarouilly]); vestibule added in 1702, by Carlo Fontana, and interior revamped about 1874.
8. S. PIETRO IN VINCOLI (Basilica Eudoxiana): vestibule by Baccio Pintelli, 1475; interior several times remodelled; cloister by Giuliano da San Gallo, 1500.
9. SANTA MARIA DEL POPOLO: another work of Pintelli, dated 1475-77; interior "adorned" by Bernini about 1640 (?); especially remarkable for its early dome, its chapels and magnificent monuments, mainly of the fifteenth century, besides those by Andrea Sansovino, about 1537; and for its paintings. The Chigi Chapel is attributed to Raphael.
10. S. GIACOMO DEGLI SPAGNUOLI: 1480, by Baccio Pintelli.
11. S. AGOSTINO: 1483 by Baccio Pintelli (?) or Giacomo da Pietra Santa; remodelled in 1750; its dome said to be the earliest in Rome.
12. SANTA MARIA DELLA PACE: 1484 or 1487, by Baccio Pintelli; cloisters added 1504 by Bramante, and façade, 1600, by Pietro da Cortona; interesting for its fifteenth-century altar, sixteenth-century chapel and monuments, and especially the frescoes and paintings by Peruzzi and Raphael.

B. CHURCHES OF THE SIXTEENTH CENTURY.

- (FACADE OF SANTA MARIA DELL' ANIMA: by Giuliano da San Gallo, 1500; see 1.)
- (CLOISTER SAN PIETRO IN VINCOLI: by Giuliano da San Gallo, 1500; see 8.)
- (CLOISTER SANTA MARIA DELLA PACE: by Bramante, 1504; elegant use of colonnade over arcade.)
- (CIRCULAR CHAPEL OR TEMPIETTO, by Bramante in Court of San Pietro in Montorio, 1504; see 6.)
13. SANTA MARIA DI LORETO: 1507, by Antonio da San Gallo, the younger; a fine dome, with lantern; conspicuous in view of the Forum and Column of Trajan.
 14. SAN LORENZO IN DAMASO: incorporated into the Palace of the Cancelleria, 1508, by Bramante; interior revamped 1820 and 1873.
 15. SANTA MARIA IN DOMINICA: portico added to ancient basilica by Raphael, 1515, and grisaille frieze painted by Giulio Romano and Perino del Vaga about the same time.
 16. SAN SPIRITO IN SASSIA: 1538, by Ant. da San Gallo, the younger; façade about 50 years later by Mascherino; elegant Renaissance campanile.
 17. CHAPEL OF SAN ANDREA FUORI LE MURA: 1553, by Giac. Barozzi di Vignola. (A smaller chapel of Saint Andrew stands not far from this, built nearly 100 years earlier, under Pius II.)
 18. SANTA CATERINA DEI FUMARI: 1563, by Giacomo della Porta.
 19. SANTA MARIA DEGLI ANGELI: the tepidarium of Diocletian's Thermae converted into a church by Michael Angelo, in 1563, one of his last works; he also added the cloisters in the same year. Nearly 200 years later Vancitelli remodelled the church much to its injury.
 20. THE GESU: 1568, by Vignola and Della Porta; a domical church showing the influence of the design of St. Peter's; exceedingly rich interior stucco-work and paintings.
 21. SANTA MARIA SCALA COELI: 1570, by Vignola and Della Porta.
 22. SAN SPIRITO IN SASSIA, façade by Ottavio Mascherino, 1585; [Letarouilly says 1570]; see 16).
 23. SANTA MARIA IN VALICELLA, also called the CHIESA NUOVA: 1559 (1573 Letarouilly) by Matteo di Città del Castello; interior by Martino Longhi, the elder. Rich stucco-work and paintings; chapel of San Filippo Neri the founder; seventeenth-century sacristy, oratory and cloister, by Borromini; façade, 1620, by Fausto Rughesi.
 24. SANTA MARIA IN ARA COELI: an ancient basilica remodelled in 1575, and several times altered subsequently; several rich monuments, chapels and paintings.
 25. SAN GIOVANNI IN LATERANO: transeptal façade in 1856, by Domenico Fontana. The transept altered, 1600, by Della Porta, and the nave remodelled and atrociously disfigured in 1630 by Borromini. The imposing main façade was built in 1734 by Alessandro Galilei; the sanctuary enlarged in 1875-80. The ceiling is fine; it was probably designed either by Michael Angelo or Della Porta, and is perhaps the earliest of the visible "restorations" effected here by the Renaissance; the still earlier alterations of the building itself in 1430 having disappeared under Borromini's work. One or two early Renaissance monuments, however, are still to be seen, as well as some of the ancient mosaics and Medieval frescoes. The visitor should not fail to examine the beautiful thirteenth-century cloisters, which reveal strikingly the persistence of Classic forms in Rome throughout the Middle Ages.
 26. (SANTA SABINA, remodelled 1587; see 2.)
 27. SAN GIOVANNI DEI FIORENTINI: begun early in the century under designs by Giacomo Sansovino, but mainly the work of Michael Angelo and Giacomo della Porta (1589); façade added 1734, by Alex. Galilei.
 28. SAN LUIGI DEI FRANCESI: 1589, by Giacomo della Porta.
 29. SANTA MARIA MAGGIORE: one of the most splendid of the ancient basilicas and least disfigured by modern alterations. The magnificent ceiling was designed by Giuliano da San Gallo, and gilded with gold from the newly discovered western world. The two rich domical chapels, the Sistina and the Borghese were added in 1590 (Dom. Fontana) and 1611 (Flaminio Ponzio), rear façade 1670 by Carlo Rainaldi; the rest of the exterior, including the façade, by Ferdinando Fuga, in 1743.
 30. SANT' ANDREA DELLA VALLE: 1591, by P. Paolo Olivieri; continued by Carlo Maderno, and the façade added 1670, by Carlo Rainaldi.

C. CHURCHES OF THE SEVENTEENTH CENTURY.

- (TRANSEPT OF SAN GIOVANNI IN LATERANO, remodelled by Della Porta, 1600; see 24.)
- (BORGHESSE CHAPEL OF SANTA MARIA MAGGIORE, 1611, by Flaminio Ponzio; see 27.)
31. SANTA MARIA DELLA VITTORIA: 1605, Carlo Maderno.
 32. SAN CARLO AL CORSO: 1612, by Onorio Longhi; façade, 1690, by Menicucci.
 33. SANT' ANDREA DELLE FRATTE: 1612, Giovanni Guerra; dome and tower by Borromini, 1650; façade by G. B. Soria, 1630, restored by Valadier, 1836.
 34. (FACADE SANTA MARIA IN VALICELLA, 1620, by Fausto Rughesi; see 22.)
 35. SAN CARLO, ALLE QUATRO FONTANE: 1640, Francesco Borromini.
 36. SS. VINCENZO ED ANASTASIO: 1650, Martino Longhi, the younger.
 37. SANT' AGNESE ON PIAZZA NAVONA: 1650, by Carlo (or Girolamo [Letarouilly]) Rainaldi; façade by Borromini—a very reprehensible design.
 38. (ORATORY AND CLOISTER OF SANTA MARIA IN VALICELLA, by Borromini; see 22.)
 39. (NAVE SAN GIOVANNI IN LATERANO, by Borromini, 1650; see 24.)
 40. (FACADE SANTA MARIA DELLA PACE, by Pietro da Cortona, 1690; see 12.)

35. SANTA MARIA DEI MIRACOLI: 1662, by Carlo Rainaldi, Lorenzo Bernini and Carlo Fontana; domical churches (one of them an elliptical, the other an octagonal plan) flanking the entrance to the Corso.
36. SANTA MARIA MAGGIORE, posterior façade by Carlo Rainaldi, 1670; see 27.)
37. (SANT' ANDREA DELLA VALLE, façade, 1670, by Carlo Rainaldi; see 28.)
38. (FACADE OF SAN CARLO AL CORSO, 1698, by Giovanni Menicucci; see 30.)

D. CHURCHES OF THE EIGHTEENTH CENTURY.

- (SANTA MARIA IN TRASTEVERE, façade and vestibule, 1702, by Carlo Fontana; see 3.)
- (SAN PIETRO IN VINCOLI, remodelled in 1705 by Francesco Fontana; see 8.)
37. SANTA MARIA IN COMEDIN: restored, and façade added in 1718, by Giuseppe Sardi.
- (SAN GIOVANNI IN LATERANO; main façade, 1734, by Alessandro Galilei; see 24.)
38. SANT NOME DI MARIA: 1738, by Antoine Driset; the first Pensionnaire de Rome of the French Academy of Fine Arts, near the Church of Santa Maria di Loreto; see 13.
- (SANTA MARIA MAGGIORE, interior cleared of Medieval additions, main façade and exterior walls rebuilt, 1743, by Ferdinando Fuga; see 27.)
39. SANTA CROCE IN GERUSALEMME: façade and interior, 1744, Domenico Gregorini.

E. THE CHURCH OF SAINT PETER (SAN PIETRO IN VATICANO).

The first steps towards the erection of a church in place of the ruined early Christian basilica were taken in 1505-55 by Pope Nicholas V, for whom Bernardo Rossellini erected the tribune of a new basilica. The work ceased on the Pope's death, and the present church represents a wholly new project, first conceived by Bramante for Pope Julius II. The outline chronology of this, the most imposing monument of the Roman—indeed of the Italian—Renaissance, is given below.

The student is referred to the magnificent plates, unfortunately without text, of Letarouilly's "Le Vatican," to be found in the larger and richer public libraries; to Symond's "Life of Michael Angelo," recently published, and his "The Renaissance in Italy: the Fine Arts;" to the work of Domenico Fontana (who completed the dome) entitled "Templum Vaticanum;" a rare work, to be found in the larger libraries only; and to the histories and hand-books of Lübke, Fergusson (who, however, makes the great mistake of giving as Bramante's, a plan really due to Raphael), Palustre, Murray, whose sketch of the history of the building is admirable, and Baedeker; to Bueckhardt's "Cicerone" and the works of Müntz and Geymüller.

CHRONOLOGY OF ST. PETER'S.

1506. Foundation-stone laid, under present pier of St. Veronica, for construction of Bramante's design: four equal apse-ended arms, with domical chapels and vast central cupola.
1514. Raphael called to superintend work. Proposes conversion of plan into five-aisled Latin cross. Fra Giocondo and Giuliano da San Gallo associated with him.
1518. Antonio da San Gallo, the younger, called in to assist and
- 1520 becomes, on Raphael's death, director of the works with Baldassare Peruzzi. The failure of Bramante's piers necessitates their strengthening by additional masonry. Two designs successively proposed and abandoned; Peruzzi's simplifying Bramante's and establishing the eastern front as the chief façade; and San Gallo's adding a narthex and two campaniles, changing also the external ordonnance.
- 1534(?) Wooden model of San Gallo's design executed by Antonio Labaco; still preserved in one of the chambers in the piers.
1546. On the death of San Gallo (Peruzzi having died in 1536), Michael Angelo is placed in charge of the work. The plan further simplified and restored somewhat in the direction of Bramante's original conception; the dome designed and carried up as far as the drum, which was partly completed.
1561. Michael Angelo, dying, is succeeded by Vignola, who completes the lantern in front of the dome, and by whom, with Pirro Ligorio, the dome is carried on upon Michael Angelo's lines.
1573. Death of Vignola. The work taken up by Giacomo della Porta, Vignola's pupil, who modifies Michael Angelo's profile for the dome, making the curve steeper, and brings it nearly to completion. He designs the mosaics for the interior of the dome and its pendentives.
1601. Death of Della Porta; accession of Domenico Fontana, by whom the dome and lantern are finally completed.
1605. The nave lengthened by the addition of two new bays and alteration of the terminal bay of Michael Angelo's design by Carlo Maderno. The new façade completed in 1612 by the same architect.
1626. The building consecrated by Pope Urban VIII.
1629. Bernini becomes master of works, but does little of consequence until 1661 when he builds the magnificent colonnades and corridors flanking the Piazza San Pietro.
1776. Building of the present sacristy or Sagrestia Nuova by Carlo Marchionne. Under Pius IX, the final touches were completed on minor details previously neglected.

The monuments in St. Peter's are mainly the work of the period of the Decline, and need not be specially mentioned here. A. D. F. HAMLIN.

MODERN ASYLUMS FOR THE INSANE.—IX.

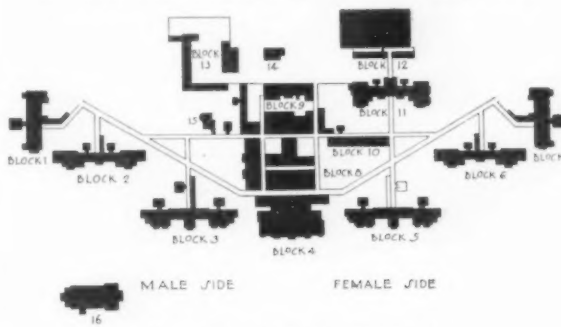


Fig. 1. West Riding Asylum (Menstone).

- | | |
|--------------------------------------|-------------------------|
| 1. Epileptic Block, Male. | 9. Stores, etc. |
| 2. Recent and Acute Block, Male. | 10. Nurses' Residences. |
| 3. Sick and Infirmary Block, Male. | 11. Laundry Ward. |
| 4. Administrative Block. | 12. Laundry Block. |
| 5. Sick and Infirmary Block, Female. | 13. Workshops and Yard. |
| 6. Recent and Acute Block, Female. | 14. House. |
| 7. Epileptic Block, Female. | 15. Attendant's House. |
| 8. Recreation and Dining Hall. | 16. The Church. |

In pursuance of the promise made in one of our previous papers, we give below a list of several asylums, together with particulars of cost and numbers of patients accommodated therein, as well as the number of single rooms. It must be borne in mind that the

¹ By George H. Bibby, F. R. I. B. A., F. R. Hist. S., and Ernest A. E. Woodrow A. R. I. B. A. Continued from No. 939, page 113.

provision of a large number of single rooms for the separation of patients adds greatly to the cost of an asylum building. The inmates are, of course, most economically housed, where arrangements for associating them in large dormitories exist, but a fair proportion of single rooms must always be allowed for, and, as a general rule, it will be found that patients in town asylums require more single-room accommodation than those who are located in asylums, situated in the country.

In this number we give a few examples of block plans of asylums, in Figures 1, 2, 3, 4, of Menstone Asylum, in Yorkshire, a design for Cheddleton Asylum, Staffordshire, Exeter Asylum, and Montrose Asylum. These types, together with those we have given in former chapters, are varieties of the forms of general arrangement, but at present such plans as those of Somerset, Claybury, Cheddleton, Sunderland and similar asylums appear to meet with most favor. Full references are given with these four diagrams, which explain the arrangements of the general plans.

An architect may obtain much knowledge by the examination of plans, but he will never have an accurate idea of the multifarious requirements of asylum planning until he extends his studies by visiting some of the best and some of the worst asylums themselves: if this be done in the company of some unprejudiced attendant, or other officer of the asylums, much might be learned by the architect, while no other method could teach him.

When the architect and the medical superintendent work in unison, as they did, we are given to understand, in designing the Whittingham Asylum, good results are achieved, which can be obtained in no other way.

The disputes and discussions that have been carried on for years among authorities and experts, as to the size an asylum should attain, points to the fact that seldom should an excess of one thousand patients be provided for in one institution. It is, however, still the practice to erect asylums of twice that capacity, and English architects have but lately been invited to prepare plans in competition for an asylum, to accommodate two thousand patients, and the Lancashire Asylum's board, who invite the competition, suggest the sum of £100 (\$500) per patient as a reasonable price for the building. The cost would,

therefore, be £200,000 or \$1,000,000. This as compared with the outlay for recently-erected asylums, and with the published estimates of new schemes, seems, if modern improvements are to be incorporated in the design, far below the mark.

The most suitable buildings for the cure and charge of the insane must, in the long run, become the cheapest to the rate-payers; but the excessive provision of costly items, which are neither needed nor appreciated by those for whom they would seem to be intended, is an unnecessary outlay.

Throughout the curable stage of their disease, insane paupers very frequently are retained in workhouses to save the expense of their maintenance in the county asylum. While so detained, they are receiving neither the right medical treatment nor the right supply of nourishment. Effectually to treat a pauper lunatic in a workhouse would, for want of the organized system and all the appliances belonging to an establishment built and maintained with the sole view to such a purpose, cost more than the charge payable to a county asylum for the care of him. Patients retained thus in the workhouse during the first weeks of lunacy are said not to show a fair percentage of recoveries, but, becoming worse, are sent, when the possibility of a perfect cure is at an end, to an asylum and become for the rest of their lives a permanent or occasional charge upon the rates.

We repeat, that an asylum architect must endeavor to learn all that he conveniently can respecting insanity and the habits of the insane. There are thousands among the ignorant who hold, concerning insanity, opinions little in advance of those of the day when Luther said, "Idiots are men in whom devils have established themselves, and all the physicians who heal those infirmities as if they proceeded from natural causes, are ignorant blockheads who know nothing about the powers of the demon. Eight years ago, I myself saw this sort which had no human parents, but had proceeded from the devil!"

The want of thoroughly good asylums (apart from county asylums for paupers), in which afflicted persons belonging to the middle classes may promptly receive the best treatment at a moderate charge, was met some thirty or forty years ago in England by the

TABLE SHOWING COST OF ASYLUMS.
IRREGULARLY PLANNED ASYLUMS.

ASYLUM.	AREA OF GROUND, ACRES.	NUMBER OF PATIENTS.	DATE OF ERECTION.	TOTAL COST.
Suffolk County.....	84.....	530.....	1827	
Wolton, Gloucester.....	200.....	780.....		
CORRIDOR ASYLUMS.				
Abergavenny.....	75.....	867 (159 single).....		£98,000.....
Carmaerthen.....	47.....	599 (72 single).....	1865	£80,000.....
Garlands, Carlisle.....	137.....	620.....		
Darby County.....	101.....	471 (115 single).....	1851	£113,000.....
Sussex County.....	245.....	880 (165 single).....	1859	£144,089.....
Wiltshire County.....	90.....	715 (110 single).....	1851	£83,000.....
London Co., Colney Hatch....	½ mile long.....	2,250 269 males' s'gle. 289 females' s'gle.	1851	£26,000 original building. £30,000 land. Greatly enlarged, total cost about £600,000.....
Hereford.....	110.....	400 (77 single).....	1872	£105,000.....
Bedford.....		1,050.....	1860	
Hertford.....				
Huntingdon.....				
Essex County.....	120.....	1,350 { 555 males..... 795 females.....		£79,497 original cost for 450 patients.....
Nottingham County.....	21 (in the town).....	350 (112 single).....		£50,000; further additions of female wards being built £60,000.....
Dorset County*.....	250.....	320.....		
Buckingham County.....	32.....	450 (85 single).....		
Corwall County.....	59.....	706 (213 single).....		
Kent County, Baring Heath.....	1,080.....	1,577 (327 single).....		£220,000.....
Norfolk County.....		809 (147 single).....		
Yorkshire, East Riding.....	100.....	310 (55 single).....		£61,662.....
Berkshire County.....	161.....	500 (110 single).....		£124,000.....
Northumberland County.....	100.....	550 (70 single).....		£116,800.....
Worcester County.....	469.....	950 (now 1,061, 127 single).....		
Middlesex County.....	142.....	1,100 (336 single).....		£213,536.....
Surrey County, (Brookwood).....	225.....	1,050 (110 single).....	1867	£102,000..... £130,000 now being enlarged by Messrs. Giles & Gough for 450 more patients, at a cost, £113,000.....
Somerset County, (Wells).....	107.....	830 (192 single).....		
Shropshire & Montgomery Co. Litchfield, (Burntwood).....	147.....	745 630 (92 single).....		£119,000.....
Oxford County.....		476 (120 single).....		
Leicester and Rutland County.....	37.....	100.....		£18,000 since enlarged for 500 patients.....
Rainhill.....	232.....	1,890 (250 single).....		£388,000.....
Prestwich.....	193.....	2,300 (350 single).....		£351,436.....
Yorkshire, West Riding.....	100.....	1,410 (179 single).....	1818	
North Wales.....	100.....	539 (88 single).....		
City of London.....	140.....	430 (70 single).....		£100,000.....
Ipswich.....	69.....	260 (44 single).....		£32,000.....
Nottingham, Borough.....	30.....	560.....	1880	£90,000.....
Birmingham City.....	40.....	600 (94 single).....		
— Hill, Staffordshire.....	200.....	150.....		
State Criminal, Brodmoor.....	323.....	630 { 480 males..... 150 females..... (400 single).....	1863	
Winford House.....	60.....	130.....		£71,000.....
Warneford, Oxford.....	22.....	100.....	1826	
Coppice, Nottingham, private.....	17.....	110 (40 single).....		£30,000.....
Lincoln, lunatic hospital.....	7.....	80 (40 single).....		
Barnwood House, Gloucester.....	240.....	160 (32 single).....	1860	
Royal Albert, for Idiots.....	105.....	600.....		£77,000.....
Earlswood.....	200.....	630 (150 officers).....		£112,000.....
Exeter City.....	90.....	340 (43 single).....		

PAVILION ASYLUMS, WITH ONE-STORY CORRIDORS.

Asylum for Idiots, Dareuth ¹	1,000 children.....	£100,000.....
Second Gloucester Asylum ²		
Leavesden ⁴		
Caterham ⁴	2,000 (46 single).....	
Banstead ⁴		
Surrey County ⁴	151.....	2,000.....

CORRIDOR PAVILION ASYLUMS.

This form of asylum construction is a combination of the two preceding forms, and when properly carried out, constitutes the best method of all, for an ordinary county asylum or hospital for the insane.

Illustration.—The corridors of communication should not be used as day-room space, though single rooms may very advantageously be arranged along one side of the corridor, and these corridors should be planned so as to form the readiest means of reaching the ward; otherwise there is some danger of another ward being made a thoroughfare, whatever the intention of the architect might have been; hence, either the main corridor of communication should be two stories high, or the staircase should be arranged so as to permit of the ward being reached without passing through any other ward.

Lancashire, Whittingham⁵..... 17,000.....

This is without doubt one of the finest specimens of asylum architecture in England and its leading features show at once the close cooperation of a skilful architect and a medical superintendent.

Northampton County.....	880 (157 single).....	1876	£115,000.....
Hull Borough.....	350 (80 single).....		£51,060.....
Derby Borough.....	300 (96 single).....	1889	

Asylums of this class have been erected in Scotland, Ceylon, Austria, Hungary, Belgium, Denmark, France, Germany, Norway, Russia, Turkestan and North and South America.

* Two buildings within one mile of each other.

† Includes land, building and furniture. § Building and furniture. † Includes land.

‡ Straight corridors. ² Broad arrow plan. ³ See *American Architect*, No. 933, page 71. ⁴ H plan. ⁵ Horse-shoe form.

NOTE.—The dates of the erection of the above asylums refer generally to the commencement of buildings which in many cases have since been repeatedly enlarged or improved.

Society of Friends, who erected a "Retreat" near York. This institution long held a foremost place in the history of the amended treatment of the insane, and for its time, it was one of the best institutions in the land; not only was it self-supporting, but yielded a considerable surplus, devoted to the increase of its power to do good. The payments demanded were proportionate to the means of those who

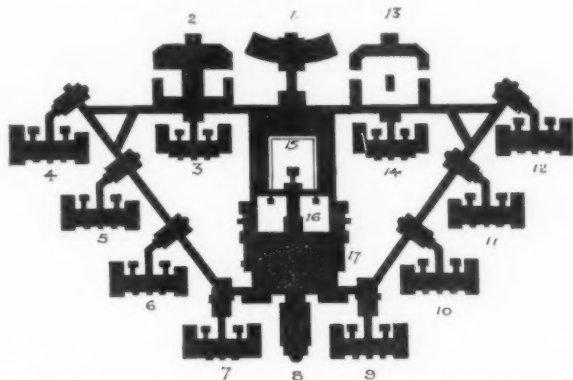


Fig. 2. Design for Cheddleton Asylum, by Lerner Sugden, F. R. I. B. A. and A. Mosley, Architects.

- | | |
|------------------------------------|-----------------------------------|
| 1. Principal Entrance Block. | 10. Recent and Acute Block, Male. |
| 2. Laundry Block, Female. | 11. Epileptic Block, Male. |
| 3. Chronic Block, Female. | 12. Chronic Block, Male. |
| 4. Chronic Block, Female. | 13. Workshops. |
| 5. Epileptic Block, Female. | 14. Chronic Block, Male. |
| 6. Recent and Acute Block, Female. | 15. General Stores. |
| 7. Sick and Infirm Block, Female. | 16. Kitchens. |
| 8. The Church. | 17. Recreation and Dining Hall. |
| 9. Sick and Infirm Block, Male. | |

sought admission, and varies from six shillings a week to two pounds (\$10): the appointments and diet were good, and patients were even provided with means of carriage exercise.

This example shows that self-supporting, good, and well-appointed, middle-class asylums are possible, and that it is not a necessity that heavy charges should be imposed upon the means of those whose misfortune it is that they have become as dead men in the midst of the families depending upon their efforts for support and livelihood.

The public should know that insanity in its first stages—and in its first stages only—is in very many cases curable, and that a sojourn for a few weeks in a well-managed asylum will do more at a less outlay, without any charge upon charity, than expensive visits to the seaside or costly sea voyages, or private treatment, and that the attention given in an asylum is the surest means of establishing a cure of the most afflicting disease to which man is liable.

We have endeavored in these few chapters upon this subject to draw the attention of the readers of the *American Architect* to the great importance that is placed by English architects upon the question of asylum planning, an importance which is daily increasing, for it is well known that this disease which causes such an enormous amount of misery, and deprives the world of a large number of its otherwise capable workers is ever increasing and descending from the afflicted parents to their offspring.

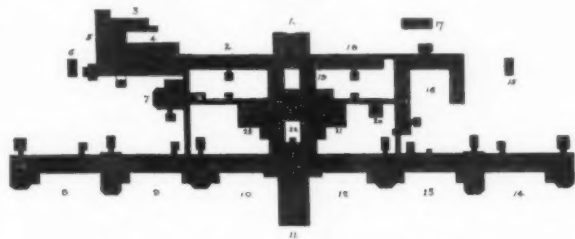


Fig. 3. Exeter Asylum, R. Stark Wilkinson, Architect.

- | | |
|--|--|
| 1. Entrance Block. | 12. Ward for 40 Dangerous Patients (Male) and on Second Floor. |
| 2. Waiting-rooms and Attendants' Apartments. | 13. Ward for 40 Working Patients (Male). |
| 3. Dynamo-shed. | 14. Ward for Suicidal, Acute and Epileptic Male Ward. |
| 4. Laundry. | 15. Mortuary. |
| 5. Boiler-house, Pump-room, etc. | 16. Workshops and Yard. |
| 6. Mortuary. | 17. Coals. |
| 7. Day-room, Laundry Ward. | 18. Attendants. |
| 8. Suicidal, Acute and Epileptic Female Ward, 70 Patients. | 19. Administrative Stores, etc. |
| 9. Ward for 40 Working Patients (Female). | 20. Turkish bath. |
| 10. Ward for 40 Dangerous Patients (Female) and on Second Floor. | 21. Dining-hall (Male). |
| 11. Recreation-hall. | 22. Administrative Kitchens, etc. |
| | 23. Dining-hall (Female). |

We have already referred to the fact that asylum planning, to a large extent in Great Britain, is in the hands of a few architects who have become specialists on the subject; it has been pointed out that if more open competitions were invited there would be a wider field of suggested improvements. This, however, is a question upon which we need not dwell here. It is true that of late years there

have been more of these competitions than formerly, but the complaint has been that the conditions are so framed and the circumstances such as to greatly hamper the architect. To win a

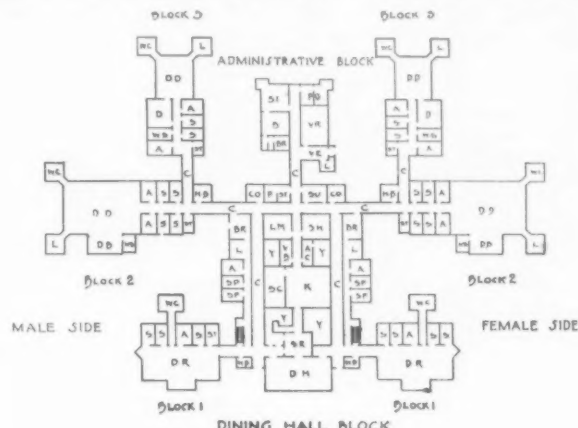


Fig. 4. Montrose Asylum.

- | | |
|---|--|
| Block 3, One Story in Height, for 10 Patients, contains:— | Block 2 One Story in Height, for 18 Patients, contains:— |
| D D. Day-room Dormitory. | D B. Day-room Dormitory with Dining-bay. |
| A. Attendants' Rooms. | A. Attendants' Rooms. |
| S. Single Rooms. | S. Single Rooms. |
| D R. Dining and Day Room. | St. Store. |
| St. Store. | W S. Ward Scullery. |
| W S. Ward Scullery. | H B. Hats and Boots. |
| L. Lavatory and Bath-room. | L. Lavatory and Bath-room. |
| W C. Water-closets. | W C. Water-closets. |
| H C. Housemaid's Closet. | H C. Housemaid's Closet. |
| Block 1, Two Stories in Height, for 22 Patients, contains:— | |
| (a) On the Ground-floor. | (b) On the First-floor. |
| D R. Day-room with Bay. | D R. Dormitory (14 Beds) with Bay. |
| A. Attendants' Rooms. | A. Attendants' Rooms. |
| S. Single Rooms. | S. Single Rooms. |
| Sp. Padded Rooms. | W C. Water-closets. |
| St. Store. | St. Store. |
| H B. Hats and Boots. | H C. Housemaid's Closet. |
| L. Lavatory. | L. Lavatory. |
| B R. Bath-room. | |
| W C. Water-closets. | |
| H C. Housemaid's Closet. | |

competition for an asylum costing from £100,000 to £500,000 is to secure a financial prize in the professional lottery.

[The end.]

DEIR EL BAHARI.

BUILT for the worship of a dead man, like all the great fanes on the left bank of the Nile at Thebes, the temple at Deir el Bahari has no progressive national character. Successive dynasties have not altered or enlarged it; it remains an expression of a single period, the zenith of Egyptian greatness. Its history as a building is comprised in the additions that the Queen herself made to her own plan, and the mutilation of her names and titles by order of her vengeful nephew; the heretic Amenophis hacked out here, as everywhere, the figures and names of Amen-Ra; here, as everywhere, the inevitable Ramesses II restored them in a style, unworthy of the first hand. In neglectful times the mountain was allowed to slip and break-in roofs and fill-up courts. A Coptic convent, built over part of the highest terrace, added its rubbish to the mounds formed already over the lower levels. Hardly a third of the whole temple was visible two years ago, and the rest seemed doomed to lie forever under forty feet of earth and stones.

The Egypt Exploration Fund, however, came to the rescue in the early part of last year, and with 200 men and a Decauville tramway succeeded in clearing the greater part of the highest terrace before the hot season began. The finds made in the process were as remarkable as unexpected. The buried north end, instead of being symmetrical with the south, as Mariette had supposed, upheld the general character of Egyptian buildings by being utterly unsymmetrical and abnormal. To balance the small "chambers of offerings" on the south there was found on the north a large hall, in the inner part of which rose a high altar dedicated to Harmachis by the Queen. The displaced stones have been built-in again now, and the great platform of brilliant white limestone, with its frieze of hieroglyphics and its graduated ascent, stands almost as complete as it ever did, the only such altar extant in all Egypt. Beside it a little funerary chapel runs into the rock, its walls a marvel of brilliant coloring. During the present season operations have been carried on with a larger staff, including two artists to reproduce the sculptures for publication. Two hundred and fifty men have been set to work on the great mounds under which the northern half of the central terrace was buried, and bit by bit they are being carried away in the Decauville cars to a deep pit a quarter of a mile away. Pillar by pillar the graceful colonnade which ran round the north side and northwest corner of the terrace is emerging from the earth. Until

this year not one person in a hundred who visited Deir el Bahari knew that it existed, and still fewer suspected that it ended in one of the finest painted halls in Egypt, soon to be opened to light and air.

It is always interesting to watch an excavation in Egypt at any stage of its progress, for so many treasures of so many kinds lie everywhere in the preserving sands. Here at Deir el Bahari the diggers, drawn from Theban villages, have been tomb-robbers to a man and have lynx eyes for small antiquities. Peeking away at the lower layers of the mounds, they let hardly a minute pass without picking up scarabs, amulets, beads, or bits of that wonderful blue-glazed ware which ranks among the finest products of the ancient world. Here a fragment of potsherd, inscribed with Coptic writing, slides down the earth slope; there rolls a limestone chip, covered with Demotic characters. These are the archives and, it seems, also the library catalogue of the monastery built here in the early days of Christianity. Now and then a refuse heap is reached, and bits of papyrus, Greek, Demotic and Coptic, are taken out in handfuls, together with broken objects of every sort and kind, and many precious fragments of sculptured walls.—*London Times.*

THE PROPOSED DESTRUCTION OF PHILÆ.

IN a recent copy of the *Manchester Guardian* may be found the following remarks by Mr. W. St. Chad Boscawen concerning the fate of Philæ:—

The decree has gone forth that Philæ, "the pearl of Egypt," "the ever-praised, but never sufficiently praised" island, shall disappear. In sober fact, the commission appointed to report upon the best site for the vast reservoir which is to store the life-giving waters of the Nile and make a garden of Upper Egypt, as the Barrage has of Lower Egypt, has reported in favor of the dam being made at the island of Shellel, a few yards above the first cataract. By this means the level of the river will be raised to a height of several metres, and at high Nile the vast superfluity of water run into a reservoir which will fill the "summer canals" of Upper Egypt and enable cultivation to be carried on during the summer as well as in the winter and spring. Whatever may be the capable output of this water store, and it will require some three to four thousand million cubits of water per annum, the rise in the river will be of such a character as to flood to a considerable depth the beautiful island of Philæ and its temples. This may in some degree be modified, as Colonel Ross, R. E., has suggested, by making the rise more gradual, but this remains to be seen. Still, as the project now stands, the order is "Perish Philæ." To the traveller who has toiled up the Nile, especially if "personally conducted," wearied with the endless panorama of half-inspected temples and tombs, and his ears ringing with the drone of the parrot-like dragoman, Philæ is a paradise. To the ancient Egyptians of centuries ago, it must also have been the same; hence its name, Pa-alek, "the end, the termination," for it was the end of the pilgrim's voyage who had come from the north to visit the sacred home of Isis. It was the end in another sense, for it was here that Egypt proper ended, and beyond was the dark continent; so, hither came the armies bound south to fight against the Ethiopians, to sacrifice for fortune. Those who have seen this island of temples can well understand how the ancient Egyptians made it the home of the lovely Isis. It is, without doubt, the most beautiful spot in the Nile journey. Here, the blue rainless sky, the rippling river rushing on to the torrent of the cataracts, the waving palms and rich verdure combine with the stately ruins to form a picture which has inspired the brush of many famous artists. The Egyptians, ever sensible to the beauties of nature, placed here the grave of Osiris and the temple of the weeping Isis. From the earliest times, certainly those of the twelfth dynasty, the island was a place of pilgrimage, but it was not until later times, until the period of the revived empire under Nectanebo II (B. C. 287), the contemporary of the Persians, that the great Temple of Isis was built.

The buildings of Nectanebo are not very extensive, but are of great interest to archaeologists. The small hypostyle vestibule at the south end of the island, near the pilgrims' landing-stage, is curious on account of its assumed ancient style. Outside of this pavilion formerly stood two sandstone obelisks, one of which was removed by Belzoni and is now in the garden of Kingston Hall, Dorset. In addition to the inscription of Nectanebo, it bears a petition to Ptolemy Euergetes II from the priests, complaining of the too frequent royal visits and the expense they entailed on the poor temple revenues. It is, however, to the Ptolemaic dynasty that Philæ owes most of its beautiful buildings. The most important of these are the Temple of Isis and the fine pylons leading to it. This temple was built by Ptolemy VII, Philometor, B. C. 181, but there are many later, down to the time of Tiberius, A. D. 14. This temple is called the "birth-house" (Mesheh), and similar chambers are found at Edfu and Denderah. This is by far the most interesting portion of the temple. Here we see all the scenes connected with the birth and nursing of Horus. In one scene we have the infant child Horus born in the presence of the great gods, Amen and Thoth, descending from the lotus flower. In another we see a goddess, probably Isis, nursing the child, while Hathor, the patroness of birth and fairy godmother of the Egyptian pantheon, is patting her hand affectionately on the child's head. The presence in the groups of Ptolemy IX, who stands beside Hathor, and of his sister and wife, Cleopatra I, shows that we have here really, blended with the

old Horus myth of Egypt, the according of divine protection to the new-born Pharaoh. Not only have these sculptures preserved a Ptolemaic myth, but they have furnished the basis of a curious modern Arab legend: the curious story of Anas-el-Wogud, the beautiful youth who pursues the beautiful, but ever-fleeing, maiden, Zahr-el-Ward, "the Flower of the Rose," is located at Philæ. Like Osiris, he comes to the island on the back of a crocodile; here the mummy of Osiris is represented carried on the back of a crocodile. Here the lady escapes from her prison, where her father had hidden her, by a rope made of her clothes. Eventually they meet, and are married with the paternal blessing, and, as the Arab writer poetically put it, "So they lived in the bosom of happiness to an advanced age, in which the roses of enjoyment shed their leaves, and tender friendship must take the place of passion." According to Arab tradition, the birth-house already described was their bridal chamber. Surely it will be a pity to lose so interesting a chamber, the centre of so many poetic legends.

It is impossible in the limits of a single article to describe the many points of interest in this great temple. One other room, however, must be described. This is the small cella and vestibule on the west of the Hypostyle hall. Here we have Horus receiving the waters of life from Isis and Nephthys after his birth, and Thoth writes his name on a palm leaf. But of more interest is a sculpture which may be called a very early example of landscape, a scene representing the rising Nile. There we see one of the cataract islands, with its rocky cliffs, with a cave in its lower part. In this is the figure of the Nile god holding two vases in his hand and guarded by a coiling serpent. From the vases flow the two streams of the river. Above, are the vulture of Muth and the hawk of Horus keeping guard, and below, the inscription "The very distant and very sacred who rises in Senem." There is one other building in this beautiful island which we shall miss with regret. It is the beautiful little kiosk known as "Pharaoh's bed." This beautiful open pavilion chapel of Hathor is known to all who have visited the island. It is a work of very late date, being of the time of Nerva Trajanus. Here, in evidence of Greek art, we see, as Ebers remarks, as it were "a line of Homer among the hieroglyphic inscriptions." The kiosk is perhaps the best known part of Philæ, painted by thousands of artists, visited by thousands of tourists, the scene of many a merry luncheon-party. It will, indeed, be missed with deep regret when submerged beneath the waters of the Nile. The order "Exit Philæ" will no doubt cause much regret and some indignation among archaeologists and artists who knew Egypt: but let them remember what the work to be undertaken means. It means new life to Upper Egypt, it means the conversion of thousands of acres of desert land into a garden, it means Egypt freeing herself from the mountain of debt which has crushed out all her life. If it is to be as the commissioners decide, let us rescue all we can of this beautiful temple. Some suggestion has been made of rebuilding the ruins elsewhere. This is on the face of it absurd. Certain chambers, such as those mentioned in this article, might be removed, and the "Pharaoh's bed" also. What should be done is that a thorough exploration of the site should be made, and casts taken of all that is worth keeping, and then we must bow the head as the sacred river closes its waters over the home of Isis, and once for all "exit Philæ."

BOOKS AND PAPERS.

HAS the reader ever visited Venice and in his wanderings about that labyrinthine city stopped constantly before the little shops filled to overflowing with countless useful and decorative household articles, made out of thin and narrow iron ribbon? They are to-day one of the most characteristic sights of Venice, and their product is so great that it must represent no inconsiderable factor in the fiscal returns of the city's domestic commerce. Wonderfully graceful and ingenious are some of the forms that are produced in this pliable material, and it is a sore trial to resist the temptation to buy all sorts and kinds of things made of it, for one is ready enough to risk the chance that the article may be squashed out of shape through faulty packing before it reaches this country. All ages of persons, of both sexes, are occupied in this work, though, generally speaking, it seems to be left mainly to the hands of women and young persons, for the labor is light and all that the work requires is an easily-acquired manual dexterity coupled with an active imagination and sense of form.

It is a kind of work that may be practised anywhere, and causes so little noise that as a house occupation for amateurs it is unobjectionable, and Mr. Leland, in describing this process and stating the simple instructions needed for its successful accomplishment, has brought within reach of amateurs and others one more art-industry which can afford occupation and amusement for the idler who objects to wholly waste his or her time, though there are objections to undertaking a more time-consuming pursuit.

Working in metal ribbon is comparatively noiseless, but noiselessness is anything but characteristic of the other classes of working in metal which Mr. Leland describes; for flat sheet-metal can hardly be worked without the nerve-racking noise of the fret-saw and file, unless indeed the worker abandons all thought of open-work, and brings

the design into being through embossing the metal; but the rat-tat-tat of the embossing hammer and die is hardly more peaceful than the gnawing of the file.

Anyone who has a fancy to undertake art-work in metal, which in fairly satisfactory form is not difficult to produce, will find this hand-book¹ of much use.

WHAT is there in the study and practice of the fine arts², which is so at variance with the literary instinct, that while floods of literature of all sorts, and of all degrees of merit and interest, are poured forth year after year upon a patient world, from men and women of all other callings and of no calling, it is a rare exception, when any book is produced by one who follows art, and the rarest of exceptions when one is so produced which has anything to say which it is good to hear? Is it, perhaps, that the work of an artist lies in the region rather of feeling than of thought, and that his only effective mode of expression is that which addresses the eye or the ear—that to him “the form alone is eloquent,” and that language is either too poor or too much outside his daily habit to seem to him a natural or efficient medium of communication with the outside world?

Whatever the reason may be, the fact seems to us not less interesting and curious than it is certain, that the artists are, as a class, deprived of the literary faculty, and that the literature of art, which is, Heaven knows, sufficiently plentiful, is the work of students who are not professors.

Perhaps, of all artists, architects are the most silent. One can count on the fingers—we were about to say—of a single hand, the members of that profession who have, in our day at least, written books in any department of architecture which have any substantial value. The engrossing character of an architect's work does not explain the fact. Men of other professions not less engrossing—of law, of medicine, of science—are habitual writers in their own special fields, and broaden by their writings the general interest as well as the professional knowledge therein. In our own country the silence of the architects is the more remarkable, from the lively interest which the most intelligent readers do undoubtedly take in architectural subjects. We complain, and not without reason, of the lack of intelligent appreciation of good architecture among our people; but we do not, perhaps, sufficiently realize that the architects themselves are in no small degree responsible for it. The people, so far as they are yet of Anglo Saxon blood, are by nature and race more or less insensible to art, in any form, but they are ready to be taught, and to some extent their general intelligence can be relied upon to make good the defects of their inherited instincts.

This is a long preamble to what we have to say of Mr. Van Brunt's book, which we welcome gladly, not alone on purely personal grounds, but because the writer is an example of an architect who, from his youth up, and in the midst of steady and conscientious professional labor, has felt the impulse to speak out from time to time on those topics which exercise the thoughts of intelligent and active-minded men of his calling, and to bring the thinking portion of the reading public, to some extent, within the circle of professional thought.

We hardly dare say how long a time it is since the essay on Greek Lines first appeared in the early pages of the *Atlantic Monthly*, where it drew immediate attention by the unusual character of its subject, by the grace and charm of its style, and by a certain poetic temper with which the writer had contrived to soften the austerity of so abstract a topic. In this poetic temper, indeed, lies a danger which Mr. Van Brunt has not altogether escaped—the danger of attributing to a work of art more qualities than rightly belong to it, and to its designer sentiments and principles, which may or may not have been part of his character, but which were assuredly not essential to his capacity for the work he produced, and which are in sober truth not expressed nor indicated by it. To ascribe to an abstract line such qualities as love, chastity, tenderness, religious reverence—or to say that the design of the Greek architect “was studied seriously, in the midst of a deep silence, like a religion,” or that the typical line of the Byzantine Greek was one of robust and vigorous life, “because of the final safe establishment of Christianity after the persecutions of Diocletian,” is to load both art and artist with a greater responsibility and significance than can rightly be put upon either. It is wiser and safer, as it seems to us, to keep a little nearer the ground, and to content ourselves with admiring and justly appreciating the strictly intellectual and artistic supremacy of the Greeks. Here we are in no danger of excess. Mr. Van Brunt expresses well this feeling, where he speaks of the “characteristics of nervous grace and severe intellectual restraint, which are found wherever the Greek put his hand and his heart to work. Every moulding bears an impress of refinement. . . . The antiquities of Attica afford nothing frivolous, no playful extravagances or wanton meanderings of line, nor did they ever submit to the tyranny of conventional formulas; but ever loyal to the purity of a high ideal, they give us, even in their ruins, a wonderful and very evident unity of expression, pervading and governing every possible mood and manner of thought,” and a little further on, where he enlarges on the wise reserve and self-restraint of the Greek and the selection and use of the materials for ornament.

The papers on “Conscience in Architecture,” on “The Personal

¹ “*Elementary Metal Work*.” A practical manual for amateurs and for use in schools. By Charles Godfrey Leland. New York: Macmillan & Co., 1894. Price \$1.75.

² “*Greek Lines*” and other Architectural Essays. By Henry Van Brunt. Boston: Houghton, Mifflin & Co., 1893.

Equation,” and on “The Present State of Architecture” are logical continuations of the same train of thought which characterizes the first paper. With a somewhat soberer and less exuberant style, as is only natural in the work of maturer years, they are all marked by the same serious and earnest conviction of the duty and privilege of the architect, to stand fast by the solid and immutable principles of his art—to resist the impulse of passing enthusiasm, or the fashion of a day, under which we have more than once seen the whole profession stampeded by a distinguished success on the part of a single man—to hold under stern restraint the temptation to profuseness and excess which is engendered in our day by the enormous accumulation of architectural precedents, and “above all, to content ourselves with simplicity and purity, and refrain from affectations.”

We have no time or space to do more than refer to the many admirable passages in these essays, as for example, the excellent account of the revival in Germany, under Schinkel, and in France under Labrousse and others,—the account of the rise of the modern profession of architecture with the Renaissance, the supremacy of the Italians in the surprising period of activity which followed. The papers are full of instruction and stimulus for the architect, and scarcely less so for the general reader, and we trust we may hope for more from the same source.

WILLIAM HENRY BISHOP, the novelist, makes a plea for the simple and homely buildings such as contented our forefathers, and it is pleasant to read his words in the midst of the prevailing craze for odd and bizarre styles of architecture. In the May number of the *Century*, describing his search for a summer home in Massachusetts, he says:

“Two small, white meeting-houses show their Christopher Wren steeples complacently. Time has been when all these white, country meeting-houses alike seemed to freeze the imagination with their coldness; but times change, and we with them. The charming grace and lightness of design that many of them possess have been recognized; their whiteness is a refreshing spot amid the greenery: in short, they are coming back into favor again, with the many other nice old-fashioned things of the period, and the invasion of Gothic chapels that succeeded them had better look well to the security of its domination.”



[Contributors of drawings are requested to send also plans and a full and adequate description of the buildings, including a statement of cost.]

THE METROPOLITAN CLUB-HOUSE, 59TH STREET AND FIFTH AVENUE, NEW YORK, N. Y. MESSRS. MCKIM, MEAD & WHITE, ARCHITECTS, NEW YORK, N. Y.

[Gelatine Print issued with the International and Imperial Editions only.]

COMPETITIVE SCHEME FOR PROPOSED BUILDING FOR AMERICAN SURETY COMPANY, NEW YORK, N. Y. SUBMITTED BY MR. GEORGE MARTIN HUSS, ARCHITECT, NEW YORK, N. Y.

THE style of the scheme herewith submitted was chosen in consideration of the generally admitted architectural preëminence of the Belgian civil and municipal buildings, which surpass those of any other country. . . .

Although having twenty stories and an attic, besides the basement and cellar, such care has been used in proportioning the masses that the effect of a much less-storied structure is obtained, while the picturesque and varied sky-line solves one of the most difficult problems presented. The roof, with its lantern or lookout, some 330 feet above the pavement, would be a superior station of observation for the United States Signal Service, while the space immediately below (where not utilized for storage tanks, janitor's quarters, etc.) would give abundant room for all the necessary machinery, instruments of precision and the like, required for this important branch of the service.

The Belgian Renaissance or Hanseatic style of Architecture is peculiarly well adapted to the rigid requirements of an office-building, because such buildings must be nearly all windows and the reposeful wall-surfaces must be at a minimum. An effort has been made to obtain a novel effect by recessing the main dormer gables, thus accenting the corner pinnacles, and so giving a decisive and bold aspect not heretofore generally obtained. An existing example of this recession is seen in the new Manhattan Life Insurance Company's building. . . .

Typical Floor Plan:—There are twenty-four (24) offices, and the axis of the court being about north and south, the best light possible is obtained for these rooms—while the larger space in front of the elevators, entirely distinct and apart from the hall and lighted from the south, gives a fine impression of each floor by its generous proportions and appeals most powerfully to intending tenants. In so many buildings the elevator-landing is made a part of the common passageway, that it is hoped the effort here made to obviate this disagreeable feature will be appreciated.

Office Unit:—One of the main features of this scheme is the division of the rentable space into nearly equal units. The unit adopted is about nine feet by sixteen feet, making it possible for professional men or others, desiring small space or a number of small rooms, to obtain the same without paying for any more square feet than they actually need. This availability of all the floor-space insures the maximum rent per square foot.

Alternative Floor Plan:—On the alternative plan herewith presented the first floor shows an entrance foyer which leads to the elevator space, beyond which are the stairs made of iron and glass.

Two banking-rooms on the first floor, one quite large and one medium, utilize all the available space, and through the generous windows and skylight receive the best possible light. Instead of the ordinary marble treads, heavy wire-glass is proposed for the staircase, thus capturing all the stray light obtainable. The marble or onyx fountain with the surrounding seats is designed to be an artistic attraction.

Splendid accommodations for the two Corporations, as also for the three floors devoted to the use of the American Surety Company, are obtained. . . .

Foundations:—The question of foundations is one which cannot at the present time be definitely decided, a more thorough investigation of the site and nature of the strata being necessary.

There are three usual methods of founding on such buildings. First: resting directly upon the natural soil, spreading the footings to limit the pressure to that suitable for the particular earth. Second: the driving of piles either to a hard substratum, or sufficiently to consolidate the bearing earth. Third: the sinking of caissons, or wells, through the earth to the rock. As far as present information goes, it is thought that the second and third methods will be found unnecessary, as the expense of either of these is so great as not to warrant its adoption unless it proved impracticable to use the first method. It is found from the borings, made by the Rapid Transit Commission, at the corner of Broadway and Pine Street, that the subsoil is entirely of sand varying in degrees of fineness to a distance of about seventy feet below the curb, where bed-rock is found, and it is believed that the expense of reaching rock at this distance below the surface will be unwarranted. Neighboring structures of considerable magnitude are founded upon this sand with satisfactory results. The spire of Trinity Church, which is nearly 300 feet high, rests upon this bed, exerting a pressure of about $3\frac{1}{2}$ tons per square foot. The Queen Insurance Company's building (now Metropolitan Trust Company), in Wall Street, is founded upon the same soil with a pressure of $3\frac{1}{2}$ tons per square foot. The Mutual Life Insurance building on Nassau Street, also the new addition on Liberty Street, is on the same bed of sand and exerts a pressure of $3\frac{1}{2}$ tons per square foot. The new building for the Continental Insurance Company on Cedar Street is similarly founded, with a pressure of about 4 tons per square foot. Numerous other buildings in the immediate neighborhood might be mentioned with similar foundation loads. In view of these precedents, it is believed that it will be entirely practicable to support the building upon the sand, spreading the footings by steel grillage, thus avoiding the usual heavy brick foundations and loss of cellar-space, so valuable for safe-deposit vaults, etc.

The total weight of the building will be twenty-two thousand (22,000) tons, and the area of footings six thousand three hundred and twenty-six (6,326) square feet, giving a calculated earth-pressure of $3\frac{1}{2}$ tons per square foot.

With this type of foundation there can be obtained sufficient head-room for basement and cellar without going below the foundations of the Schermerhorn Building, avoiding the risk and expense attendant upon underpinning this building. . . .

Heat, Light and Power Plant, and Ventilation:—Referring to the internal functions of the building, particular attention is drawn to the compact, yet wholly sufficient and complete, detail of boilers and machinery shown on the basement plans, which are in reality in the cellar. All of these are comprised in the space indicated, and by the omission of the basement floor of this portion only, an ideal engine-room is obtained.

The requirements of a building of this character in the way of heat, light and power, are amply provided for by the general arrangement shown in this scheme. Ventilation forms an important feature. In many of the office buildings which have been visited, there are provided numerous blowers, intended to supply fresh air to banking-rooms and offices. Often these blowers are not in active operation. Upon inquiry as to the cause of such an appliance not being in use, it has been invariably said, by the parties in charge, that the building can be heated without the use of the blower. That these blowers were provided, not for heating, but for supplying fresh air, is a fact that seems to be entirely ignored.

A portion of this building, of inferior rental value, has been selected for a ventilating flue, by the use of which it is feasible to obviate both the expense and necessity of blowers. In this ventilating flue is created a ventilating action which cannot be abandoned by the engineer, because in the very effort to produce power and heat, the required ventilation will necessarily be produced.

After deducting the space occupied by pipes, smoke-flue and elevator machinery, this ventilating flue contains nearly 50 square feet of clear area. Its height is something over three hundred (300) feet. It will be heated throughout its entire height by the boiler-flue and exhaust-pipe, creating an upward air current of, at least, 850 lineal feet per minute, equivalent to the power produced by a 25 horse-power engine and

blower. This flue alone is capable of discharging every thirty minutes, a volume of air equal to the entire cubical contents of the building. Its close proximity to the boiler-room, engine-room, banking-rooms and offices, makes it available, no matter what the division of the rooms may be. The strong draught produced by this flue completely obviates any possibility of heat penetrating beyond the walls of the ventilating shaft, and tends to cool the surrounding halls, at the same time acting as a powerful ventilator for the toilets, as before mentioned.

This flue also serves as a receptacle for the elevator cylinders, as well as all of the heating and plumbing pipes necessary for the immediate service of the building.

A grating is provided at each floor-level, sufficiently strong to furnish a stable platform, and will be constructed so as not to retard the velocity of the upward air-currents. This space may also be lighted by electricity. A door will be provided at each floor, to give access for repairing pipes or machinery. Borrowed light, both from the elevator-shafts and from the adjoining corridors, is secured as indicated on the drawings. . . .

Tables:—Appended herewith are tables showing, first: the rentable area of each floor after deducting the amount of space devoted to walls, stairs, elevators, halls, etc.; together with a calculation of rents which may be obtained, based on prices charged for similar accommodations in the neighborhood. This is certainly a very conservative estimate, as the superiority of this proposed building over adjoining buildings will render probable a return even larger. Another table contains an estimate of cost of the building; and finally a statement is made of the cost of operation, and maintenance of the building, and the net return based upon the assumed value of the property, as stated in the daily papers. . . .

TABLE I.

COST OF BUILDING.—OLD BUILDINGS ASSUMED TO BE REMOVED FOR VALUE OF MATERIALS.

Excavating, sheet-piling and sidewalk covering.....	\$3,826
Masonwork.....	137,101
Ironwork, (structural and ornamental, including stairs, etc.).....	199,196
Carpenter work.....	117,280
Plastering, (including partitions).....	39,700
Painting and ventilation.....	68,000
Electric-lighting.....	39,100
Plumbing and gas-fitting.....	65,000
Elevators.....	58,500
Tiling, marble work and wainscoting.....	128,250
Two fronts (stone in 5 lower stories, remainder brick and terra cotta).....	101,500
Mail-chute.....	2,000
Clock and illuminations.....	2,100
Total contract cost of building.....	\$966,553
Assumed cost of gas and electric fixtures.....	\$10,000
Architect's fee 5%.....	48,827
Total investment ready for rental.....	1,025,380
NOTE.—Extra cost if entire fronts are of stone.....	78,500

TABLE II.

RENTABLE AREAS AND ESTIMATED RENTALS.

Floor.	Number of rentable square feet.	Estimated rents.
Basement and cellar.....	13,506	\$15,000
First floor.....	4,548	30,000
Second floor.....	4,299	20,000
Third floor.....	4,512	18,000
Fourth floor.....	4,626	16,000
Fifth floor.....	4,413	11,000
Sixth to twentieth floors..	4,049	150,000
		\$260,000

TABLE III.

RUNNING EXPENSES AND NET RETURN.

	Per Annum.
1 Janitor and chief engineer.....	\$5,000
Engineer department.	
1 Assistant engineer.....	\$1,200
1 Electrician.....	1,000
1 Licensed night-engineer.....	960
1 Fireman.....	720
1 General utility man.....	600
7 Elevator conductors.....	3,780
1 Elevator starter.....	600
	8,860
Janitor department.	
1 Night watchman.....	720
1 Head porter.....	600
5 Day porters.....	2,400
1 Night porter.....	480
15 Floor women.....	2,880
6 Hall or scrub women.....	1,152
3 General utility women.....	576
	8,808
Total service.....	\$22,668
Depreciation of machinery and general repairs to machinery and building.....	6,000
Engineers' and janitor's supplies.....	1,050
Coal for all purposes.....	7,500
Water for boilers.....	300
Water for house purposes.....	900
Removing ashes.....	192
Gas and Electricity from street.....	900
Renewing electric-lamps.....	1,620
Miscellaneous.....	18,462
Total running expenses.....	42,130
Taxes, valuation 1½ millions real-estate.....	30,000
Insurance.....	900
Loss of rental and vacancies.....	9,100
	40,000
	\$82,130

Rentals as per Table II.....	\$260,000
Operating expenses.....	82,130
Net return.....	\$177,870
Investment in Building.....	1,025,380
Value of land as reported in papers.....	1,450,000
Total investment.....	\$2,475,380
Percentage of net return	$\frac{177,870}{2,475,380} = 7.18\%$
to total investment.....	2,475,380

COMPETITIVE DESIGN FOR THE SURETY BUILDING, NEW YORK, N. Y. MR. J. R. THOMAS, ARCHITECT, NEW YORK, N. Y.

FRAGMENT OF A VENETIAN FACADE. SKETCHED BY MISS K. M. HUGER, NEW YORK, N. Y.

This drawing was hung at the late exhibition of the Architectural League.

THE TARRANT BUILDING, NEW YORK, N. Y. MR. HENRY R. MARSHALL, ARCHITECT, NEW YORK, N. Y.

This drawing, too, was shown at the same exhibition.

[Additional Illustrations in the International Edition.]

INTERIOR OF THE GALLERY OF FINE ARTS, WORLD'S COLUMBIAN EXHIBITION, CHICAGO, ILL. MR. CHARLES B. ATWOOD, ARCHITECT.

[Gelatine Print.]

ENTRANCE GATEWAY TO THE METROPOLITAN CLUB-HOUSE, 59TH STREET AND FIFTH AVENUE, NEW YORK, N. Y. MESSRS. MCKIM, MEAD & WHITE, ARCHITECTS, NEW YORK, N. Y.

[Gelatine Print.]

MENTMORE, BEDFORDSHIRE, ENG.: FROM THE GARDENS. MR. H. STOKES, ARCHITECT.

LORDSHIP LANE HALL, LONDON, S. E., ENG. MR. H. G. BRACE, ARCHITECT.

This hall provides seating accommodation for about 370 people, and has cost \$3,500. By means of colors, effect has been gained which cannot be suggested in the drawing. Luton bricks with red dressings have been used for the dado, malms above bays only being finished in plaster-work. The object of the two levels for the floor was to fit the hall for use for private purposes, the top floor being for refreshments and a lounge, the lower for dancing, and in this it has been found particularly successful, as also that the finish gives a warm and furnished appearance, without special decoration.



[The editors cannot pay attention to demands of correspondents who forget to give their names and addresses as guaranty of good faith; nor do they hold themselves responsible for opinions expressed by their correspondents.]

A JUSTIFIABLE CRITICISM.

RICHMOND, VA., April 23, 1894.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs,—For quite a number of years I have been a regular subscriber to your valuable weekly publication, and have consequently quite a collection of text and selected plates in my office which I frequently refer to and compare one with the other.

Your last number of April 21, 1894, contains among its illustrations, the floor-plans of an odd-shaped country house, with a perspective sketch of same below them. It struck me, as being very similar to a design I had but recently seen, and on referring to your issue of September 9, 1893, I found a design of "Mamakating Inn" for the Sullivan Co. Club, of New York, by a well-known firm of New York architects, the two ends of which being covered, will leave the central portion identical even to the accessory details of roadway, rocks, foliage, and almost, even the blades of grass, with that published in your last issue. The names of different architects appear on both drawings, and the names and the initials of the draughtsmen who executed them are not the same.

An article in your next issue will be, doubtless, looked for in answer to many questions that will be asked, as to the possibility of two such similar designs and drawings having been conceived and executed by altogether different persons.

Some years ago an ambitious young architect in Washington, D. C., published a book of architectural designs for private circulation, which were copyrighted as original with him. This publication came under your notice, and the striking similarity of one of the designs, as published, to one that had previously appeared as coming from well-known architects of established standing, provoked some criticisms that were, I believe, generally approved by the profession.

If the curious phenomena in the case to which your attention is now called can be scientifically explained, I believe there are many

like myself who will read such an explanation with no little interest and gratification.

Yours truly, AN OBSERVER.

[HAD we noticed the points our correspondent points out the second design would never have been published, in this journal at least—to the injury of the designers of the original building, Messrs. Delhi & Chamberlin. —EDS. AMERICAN ARCHITECT.]

ATTEMPTED EVASION OF PAYMENT FOR SERVICE RECEIVED.

April 20, 1894.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs,—Will you kindly tell me where I can cite cases decided, and what cases, in regard to the following: I make plans, details, specifications, and get bids on a building. Submit same to owners. They are returned to me, saying they are not wanted. But before sending them back to me, the owners gave them to another architect (who agrees to build structure for $3\frac{1}{2}\%$ commission, we charging 5%) who completes building on same lot according to our plans, adds two more stories and changes façade; we, however, had contemplated two additional stories in sketches.

Present conditions are: They, the owners, acknowledge having used our plans, but refuse to pay commission, saying we had no right to the ideas in those plans, not having had them patented. The plans were complicated and original, and do they not practically make themselves liable, and actually accept the plans by having used them. An early reply by letter, or through the *American Architect*, will confer a great favor on,

Yours with esteem,

VITRUVIUS.

[VITRUVIUS seems, from his story, to have an excellent case. A person who asks an architect to make drawings and specifications for him, or who takes the benefit of them when they are made, can no more escape paying for them than he could avoid payment for a barrel of flour that he and his family had consumed; and the pretence that, after the designs have been made for him, he is entitled to use them without payment, because they are not patented, is too ridiculous to be serious. So far as we can see, there is no point of law involved, so that references are hardly needed; the whole matter is one for the jury. If the jury, on hearing all the evidence, decides that the architect was employed to make the drawings and specifications, or, supposing him to have volunteered to do so, that the client availed himself of them, it will assuredly award the architect reasonable compensation. How much is reasonable compensation will be for the jury to say, but there is not much doubt that in Chicago, a sum would be awarded approximating pretty closely to the ordinary professional charge. The cases of Nourry vs. Lord, 3 N. Y. 382; Walsh vs. St. Louis Exp. 16 Mo. App. 502, 90 Mo. 459; Tilley vs. Cook Co. 13 Otto, 155, seem to be most analogous to this, but any case where service was rendered or accepted would apply. —EDS. AMERICAN ARCHITECT.]

COMPARATIVE COST OF ORDINARY AND FIREPROOF CITY HOUSES.

NEW YORK, N. Y., April 25, 1894.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs,—In making drawings recently for three four-story American basement city houses on lot 50' x 100', I decided to procure estimates for both the ordinary and fireproof construction. The result is at once satisfactory and interesting and is as follows:

Ordinary brick construction, with wooden beams, etc., \$19,980.

Fireproof construction, with steel beams, \$20,615.

The estimates were submitted by reliable firms and a difference of only \$635 on three houses makes the two methods practically the same in cost. The advantages gained by fireproof construction are manifold; especially the economizing of space in width, which is an important item when land is expensive. I found, however, that this result could only be obtained by a particular kind of steel construction and have made full drawings of both methods to prove same. If above is a fact, there appears to be no longer any reason for building non-fireproof city houses. Thinking this will interest you, I remain,

Yours truly,

MANLY N. CUTTER.



BOSTON, MASS.—Several hundred Specimens of Textile Designs of all countries, from the second century to the present time, from the collection given by Denman W. Ross; also a collection of Japanese Color-prints: at the Museum of Fine Arts.

Water-colors by S. P. Rolt Triscott: at Chase's Gallery, 7 Hamilton Place, opens April 20.

Water-colors of Bermuda by C. Scott White: at Gallery of Foster Brothers, 164 Boylston Street, April 18 to May 5.

CHICAGO, ILL.—Annual Exhibition of Water-colors: at the Art Institute, April 3 to May 6.

Exhibition of Architectural Drawings: at the Art Institute.

Drawings and Etchings by Joseph Pennell: at the Art Institute, April 17 to May 7.

NEW YORK, N. Y.—Sixty-ninth Annual Exhibition, National Academy of Design: 23d Street and Fourth Avenue, April 2 to May 12.

Annual Exhibition of Competitive Drawings by Students of the Academy: at the National Academy of Design, 23d Street, corner Fourth Avenue, May 10 and 11.

ST. LOUIS, MO.—Exhibition of Architectural Drawings by St. Louis Chapter, A. I. A.: at the Museum of Fine Arts, April 27 to May 13.

NOTES AND CLIPPINGS

SIGNALS BY GROUND CURRENTS.—In a paper read before the Society of Arts lately, Mr. W. H. Preece, F. R. S., considered the subject of sending signals by means of electricity from one place to another without the intervention of any conductor, unless the all-pervading ether be termed a conductor. In 1884 it was noticed that messages sent through insulated wires buried underground in the Gray's Inn Road were read upon telephone circuits carried on the tops of houses eighty feet away. In 1885 it was found that currents passing in a telegraph line between Durham and Darlington produced effects in a parallel line ten and a quarter miles distant. These results were not conclusive, because it could not be proved that they were not due to accidental connections through the network of wires between those two places. In short, it was doubtful whether they were the result of induction or of conduction. But in 1886 experiments were made on parallel lines four and a half miles apart, between Bristol and Gloucester, where there were no intermediate conductors to vitiate the results. Moreover, the circuits used were metallic throughout. Under these circumstances, only weak disturbances were detected, though when the experiments were repeated in 1889, in the light of experience, more success was obtained. The theoretical possibility of signalling without wires was thus shown, and in 1892 a practical test was made in the Bristol Channel. On Lavernock point, near Cardiff, a copper wire, 1,267 yards long, was hung on poles, the circuit being completed by earth. On the sands at low-water mark, 600 yards from this circuit and parallel to it, two covered copper wires and one bare one were laid down, their ends being buried deep in the sand. On Flat Holm Island, 3.1 miles away, another covered wire, 600 yards long, was laid down. On the shore an alternating current (which was controlled by a Morse key), with a frequency of 192, a voltage of 150, and of any desirable strength up to 15 amperes, was sent through the primary circuit. The signals received on Flat Holm on the secondary circuit produced sound and were read on a pair of telephones. By this means messages were successfully sent. The same method was tried with another island, Steep Holm, 5.35 miles away, but was scarcely successful. Disturbances were indeed perceptible, but the signals could not be read. Such experiments, in which careful precautions were taken to eliminate the effects of earth currents, proved the possibility of signalling between England and France without any wires being carried across the Channel. But the expense would not be negligible, for at Lavernock Point a two-horse-power engine was required to get results over three or four miles. Mr. Preece also described experiments made with parallel wires about one and a quarter miles apart, stretched on poles along the banks of the Caledonian Canal, near Inverness. Here, with the use of ordinary telegraphic apparatus, Morse signalling was easy, and speaking by telephone possible. Mr. Preece's critics contend that his results are due to conduction through the earth. He himself maintains they are due to electro-magnetic induction. The rapidly-alternating current in the primary circuit throws the surrounding ether into oscillations, and energy is radiated in electric waves. These waves spread out, as do waves of light, and, if they fall on conductors properly placed and sympathetically prepared, are reconverted into an alternate current in the secondary circuit. — *Westminster Gazette*.

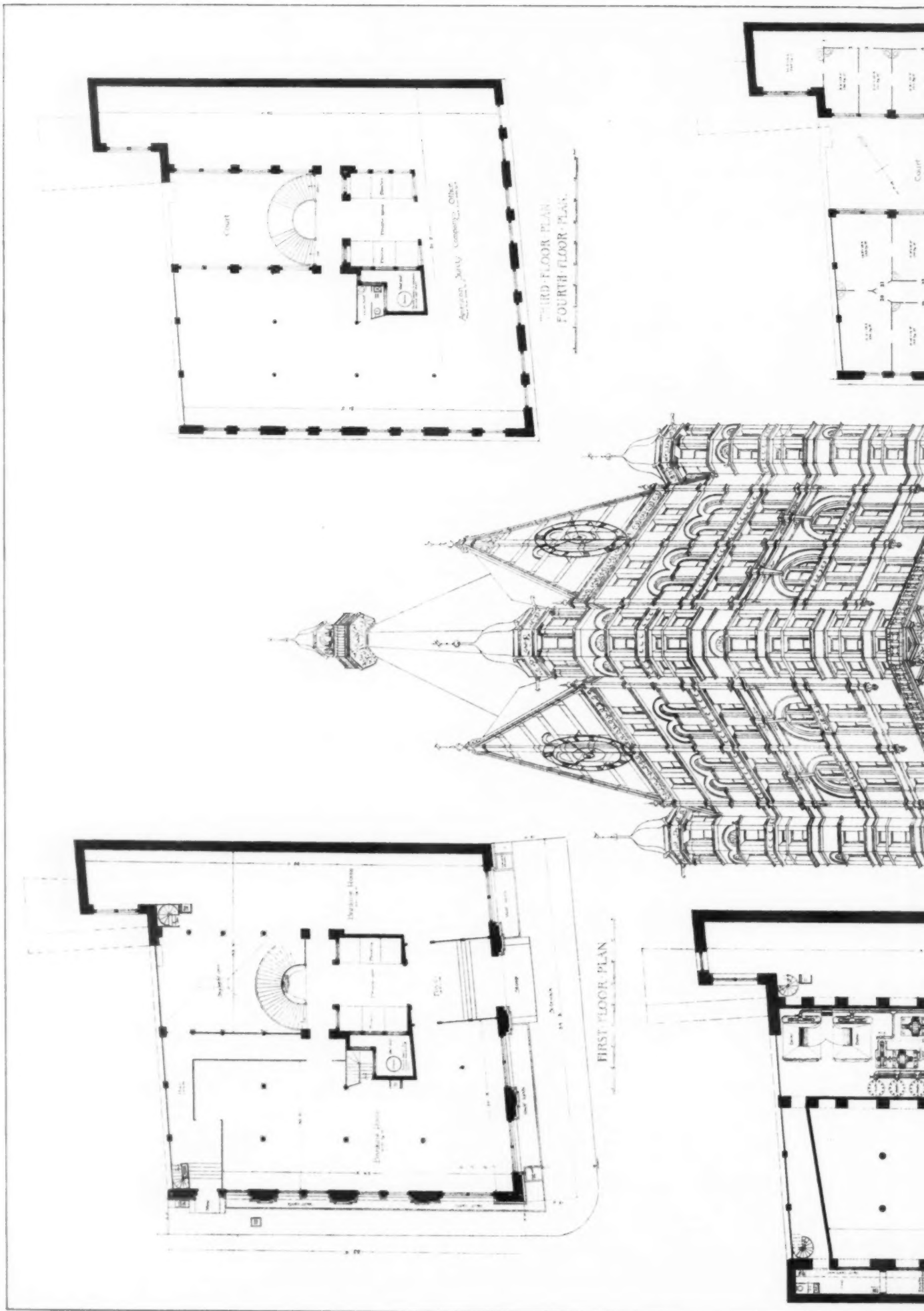
PILE-DRIVING.—At a meeting of the Society of Engineers, held at the Town-Hall, Westminster, on Monday evening, March 5, 1894, Mr. G. A. Goodwin, President, in the chair, a paper was read by Mr. Henry O'Connor on "Pile-driving." The author having remarked upon the difference in the formulas, suggested by different engineers for calculating the weight required to sink a pile farther in the ground, exhibited a diagram giving the result of these calculations for two piles, which showed that by one formula only 72 tons would sink the pile farther, whereas, by another formula it would take 300 tons. This great difference was accounted for by the various strata of the ground through which the pile was driven, and which the author said was not sufficiently allowed for, and he then showed a system which he had adopted of finding out the resistance of each layer of the ground, and the force required to withdraw a pile. The author then went on to describe the steam pile-driver used to drive the piles, which afterwards had to be withdrawn, and then touched upon the breaking-load of a pine pillar, and the side pressure which would be exerted at the moment of impact, and the method of obtaining the resistance of the ground, which would be offered to the pile when it had been driven home. The author next mentioned some experiments he had made on the force of the blow, from a monkey falling different heights, and pointed out that the friction against the guides of the pile-driver reduced the blow which the ordinary calculation for a falling weight would indicate. The author described the difficulty which had been recently experienced at Beckton, in getting a large number of cast-iron piles to stand a specified test, and showed various shoes for fitting on the bottom of the piles to prevent them sinking through the thin stratum of ballast which was found there; he then pointed out the shape which was afterwards given to the pile, and which had the desired effect; he then passed on to the effect which the interposition of a hard wooden dolly had upon the blow given by a falling ram, and showed the results of certain experiments to ascertain the loss of effective blow upon the pile. He then gave the result of a test-load placed upon a cast-iron pile, which he had driven to a test of three-eighths inch set, for four five-foot blows, of a one-ton ram, and showed a sketch of a continuous action steam pile-driver used to drive a large number of cast-iron piles. The author then mentioned the enormous blow given in America, when driving a large number of piles, and the effective blow which the pile would receive at the moment of impact, the large blow causing many of the pile-tops to crush. The author having stated what he would consider as a safe load on a wooden pile, driven in such strata as he had already mentioned, as that in which a very large number of piles had been driven under his

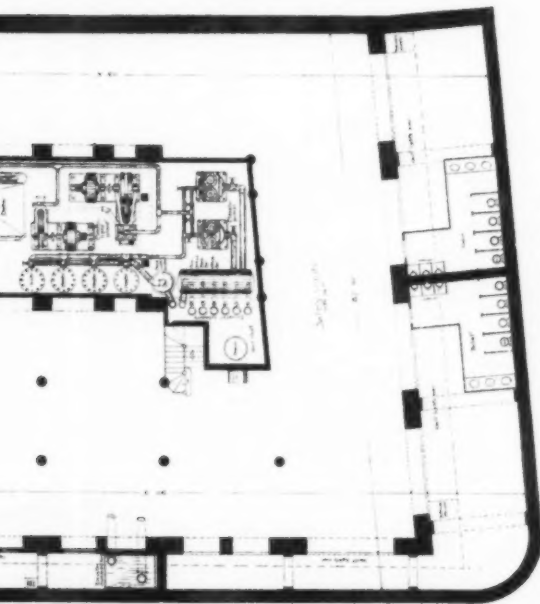
superintendence, showed a diagram which he had recently got out, and which was the result of an enormous number of calculations, by which the safe load on unsupported cast-iron columns might be easily and rapidly found. The author, in conclusion, gave some comparative figures as to the cost of driving a wooden pile, a cast-iron pile, and making the smallest workable excavation and concreting the same, showing that the cast-iron pile cost about three and a half times as much as the wooden one, while the excavation cost about eight times as much. — *Engineering*.

THE DECORATION IN MOSAIC OF ST. PAUL'S CATHEDRAL.—The decorative works in mosaic now being carried out at St. Paul's are the outcome of an appeal to the public (made as long ago as 1858 by the late Dr. Milman, then Dean of St. Paul's) for subscriptions to a fund to complete the decoration of the Cathedral in accordance with the intention of its architect, Sir Christopher Wren. The amount subscribed in 1871 had reached the sum of £40,000, when, on the occasion of the public thanksgiving held in St. Paul's for the recovery of the Prince of Wales, a special appeal was made, in consequence of which the subscriptions rose rapidly to £56,000. Through careful nursing, judicious investment, etc., this sum two or three years ago had grown to over £90,000. In 1873, the late Mr. William Burges, who had made a special study of the iconography of the French cathedrals, was applied to for the production of designs, to be worked out in conjunction with Mr. Penrose, the architect of the cathedral. A model showing the same was exhibited in the Royal Academy in 1874, but it raised so great a storm of criticism from Churchmen of all degrees that nothing further was done for the moment. In June, 1877, a sub-committee, appointed by the executive committee of St. Paul's to report on the best mode of proceeding in the execution of the decoration of the great dome in mosaic, recommended that the scheme proposed by the late Alfred Stevens (the sculptor of the Wellington Monument), on which he was working at the time of his death, should be accepted; that Sir Frederic Leighton, P. R. A., and Mr. Poynter, R. A., should be commissioned to prepare cartoons for the various panels, and Mr. Hugh Stannus (a pupil of Mr. Stevens) cartoons for the architectural framework of the design. This scheme also was set aside, but it will be remembered that in the Galleries of the Royal Academy in 1892, one of the circular panels, worked out subsequently by Sir Frederic Leighton, was exhibited, the subject being "The sea giving up the dead." It should be noted that for years, work of some kind has been carried on in the great dome, the eight spandrels of which are filled with mosaics executed by the firm of Salviati of Venice from cartoons designed by Mr. G. F. Watts, R. A., by Mr. Townroe from Alfred Stevens's designs, and by Mr. Britten. Statues are also now being placed in the niches of the great drum. — *R. Phené Spiers, F. S. A.*

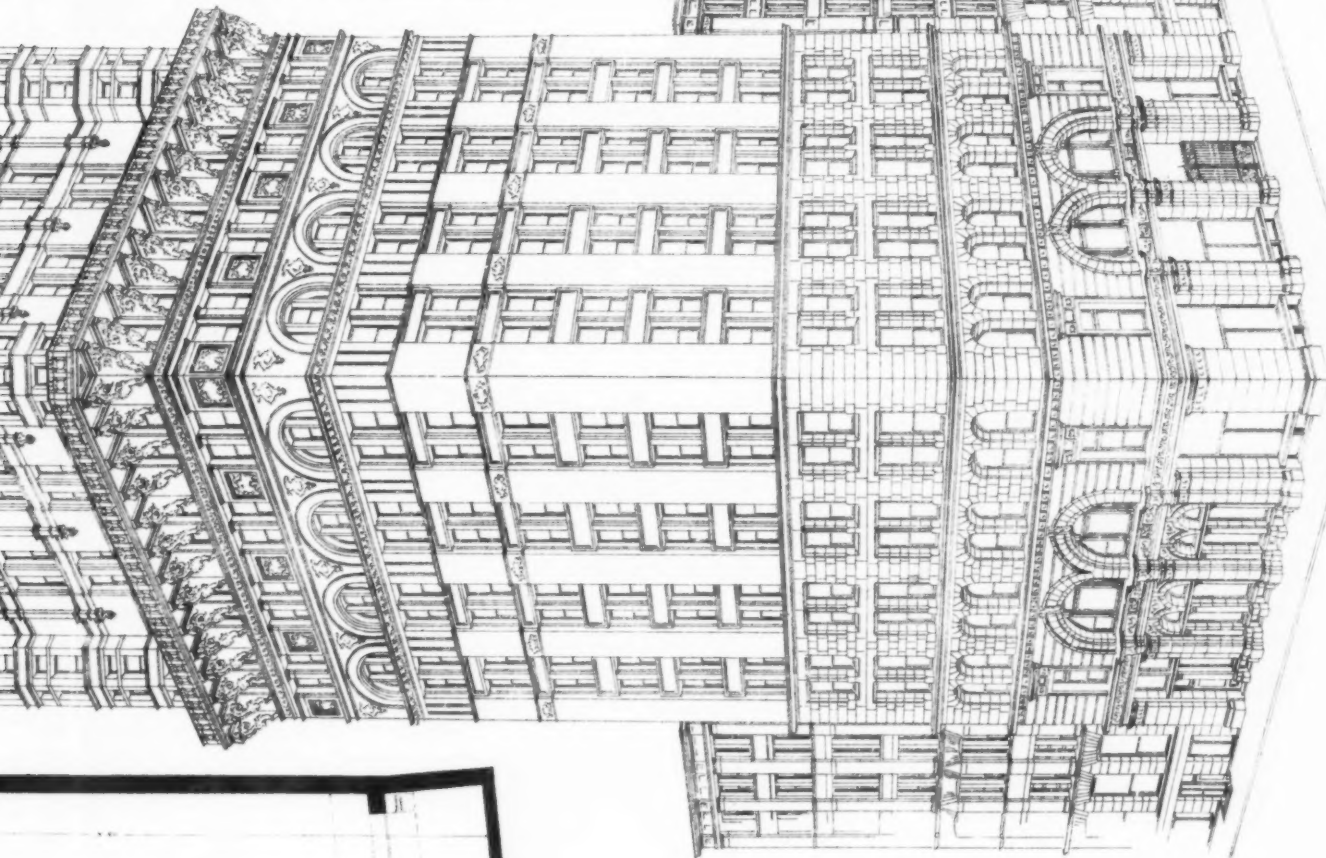
THE ARCHITECT'S CERTIFICATE.—An architect's certificate is always treated with befitting reverence in a law court, and the wit of man does not appear to have discovered any device by which it can be set aside. A coach and six can, it is said, be driven through every clause of every Act of Parliament, if a driver of the right sort can be secured, but no king's or queen's counsel with the aid of a troop of horses can make a certificate less binding on the parties concerned in it. A few days ago it was decided in the Matlock County Court that an architect cannot diminish the value of the document by any subsequent statement. A firm of builders claimed 19l. 6s. 7d. as balance of account for additions to one of the numerous hydropathic establishments in that charming district. It appears that the extras on the contract, as certified by the architect, amounted to 259l. 16s. 7d. The builders agreed to accept 250l. if the money were paid at once. A sum of 240l. was given to them. As they could not obtain the balance, they were obliged to sue for it. The defendants pleaded that the contract was not stamped. The judge overruled the objection on the ground that there was admission of the work being done, and, moreover, the architect had certified it was finished. The architect was then brought up to testify about some work being still incomplete, and how he had told the builders not to present the certificate until all was carried out to his satisfaction. In reply to the judge, he admitted that the certificate was not entirely accurate. The judge said there was no getting over the certificate, which declared that the work was complete in September last. It was right to withhold some money for unfinished work, but the acceptance of 250l. for an account amounting to over 259l. was evidence that a sufficient allowance had been already agreed to on that head. His Honor, therefore, held that, in addition to the 7l. 7s. 3d. lodged in court, a further sum of 10l. must be paid. The amount in dispute was not large, but the decision that an architect cannot explain away his own certificate is important. We believe the only judgment to the same effect has been given in the Supreme Court of New York. — *The Architect*.

PARIS HOT-WATER FOUNTAINS FAIL.—Disappointment has resulted from the establishment, in Paris, of the hot-water fountains, which, it was thought, would be so useful to the public and particularly to poor people, who cannot afford to have a fire at all times at their homes. The water is delivered from automatic machines. Put a halfpenny in, and you get eight litres of water (about fourteen pints) at a temperature of 60° Centigrade—that is to say, 140° Fahrenheit. A contractor made arrangements with the Municipal Council whereby he was guaranteed the monopoly of the business, and eighty machines were put up in different parts of the city. They have not, however, been a success. Sometimes the would-be purchaser puts his halfpenny in and gets nothing but a copious douche of cold water, which he could get at the nearest pump for nothing, but more often he gets no return at all. Out of the eighty machines, it was found on an official inspection the other day that only fifteen were in working order. They are covered by puffs of tradesmen's wares, and it was hinted, at a discussion on the subject at the Municipal Council, that practically they had become nothing but advertising stations. The contractor is to be compelled either to supply the hot water or retire from the business. — *The London Daily News*.





BASMENT FLOOR PLAN



Reverend Martin Glass
Architect

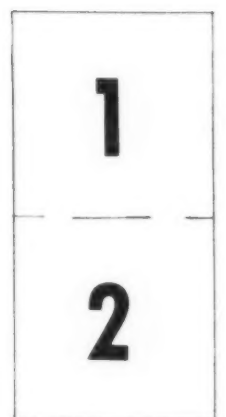
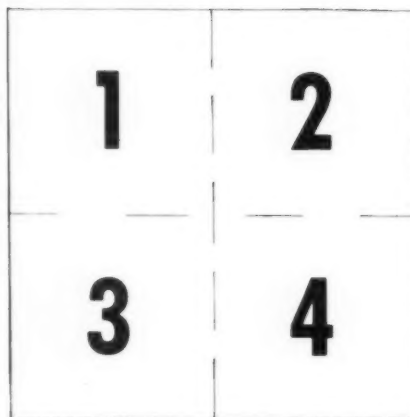


TYPICAL FLOOR PLAN

COMPETITIVE DESIGN FOR AMERICAN SURETY COMPANY'S BUILDING, NEW YORK, N. Y.

RENDERING BY J. H. BOSTON

Maps on this order too large to be entered
are filmed clockwise beginning in the upper
right and top to bottom as many frames
diagrams illustrate the method.

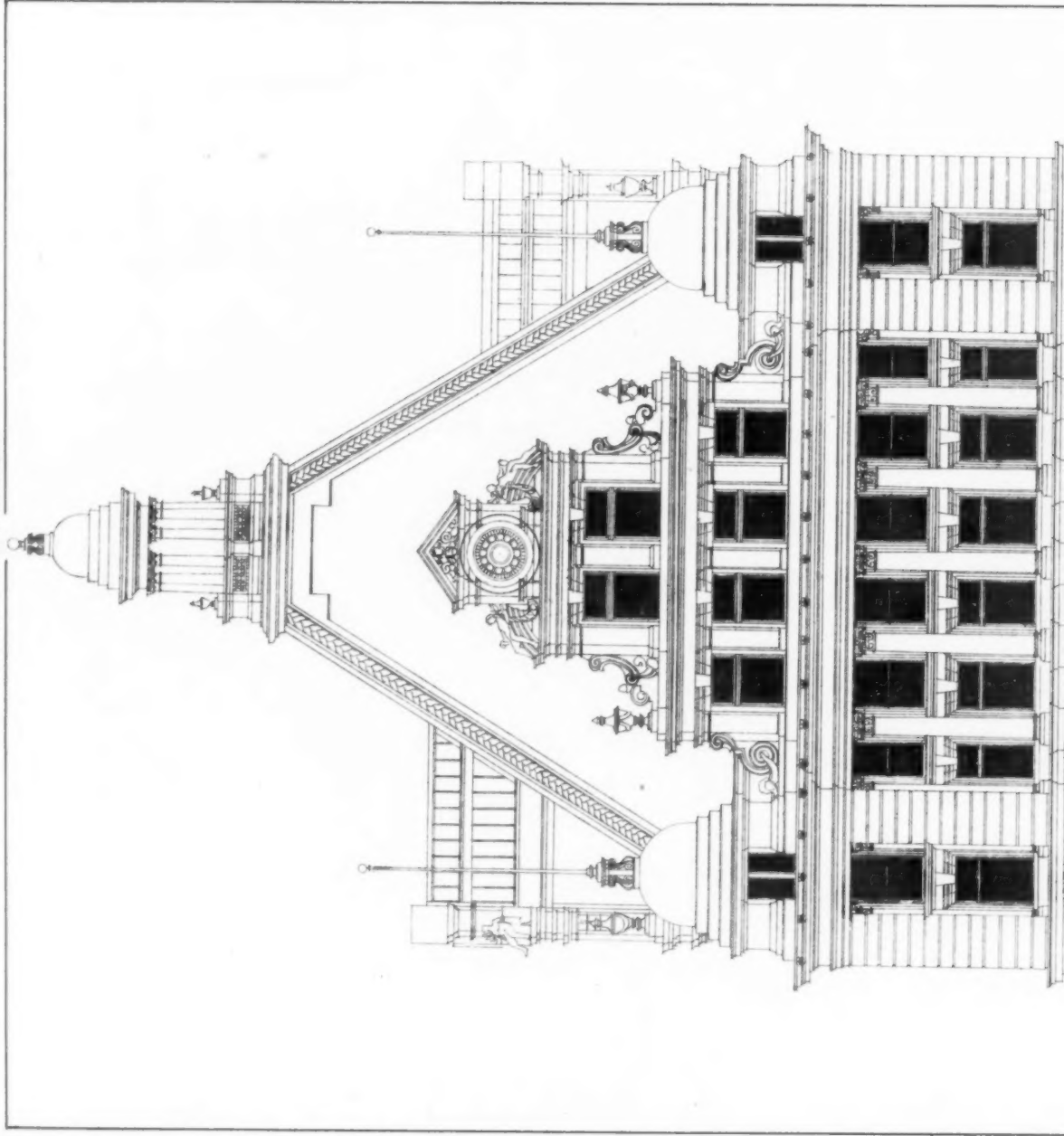


be entirely included in one exposure
the upper left hand corner, left to
frames as required. The following

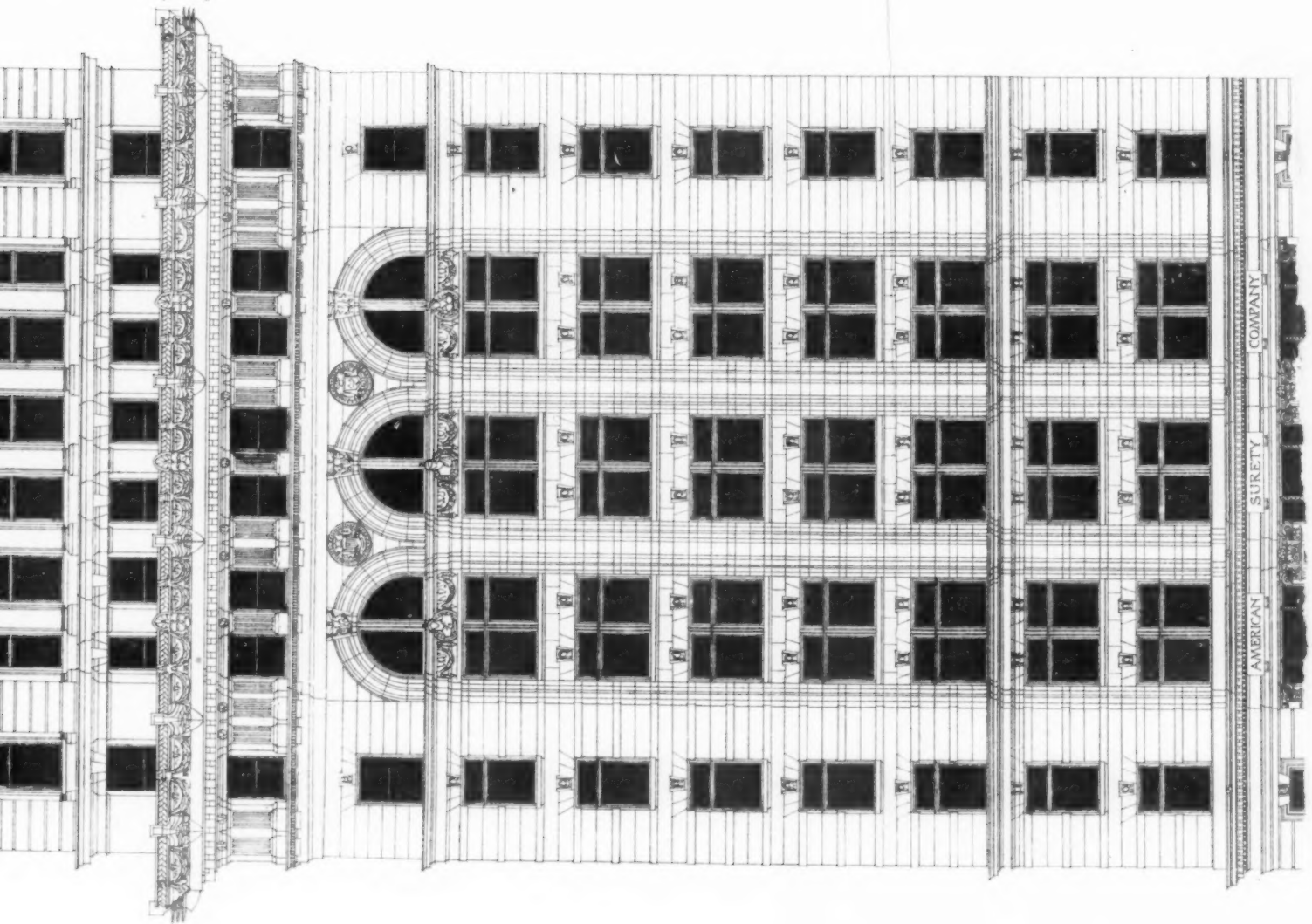
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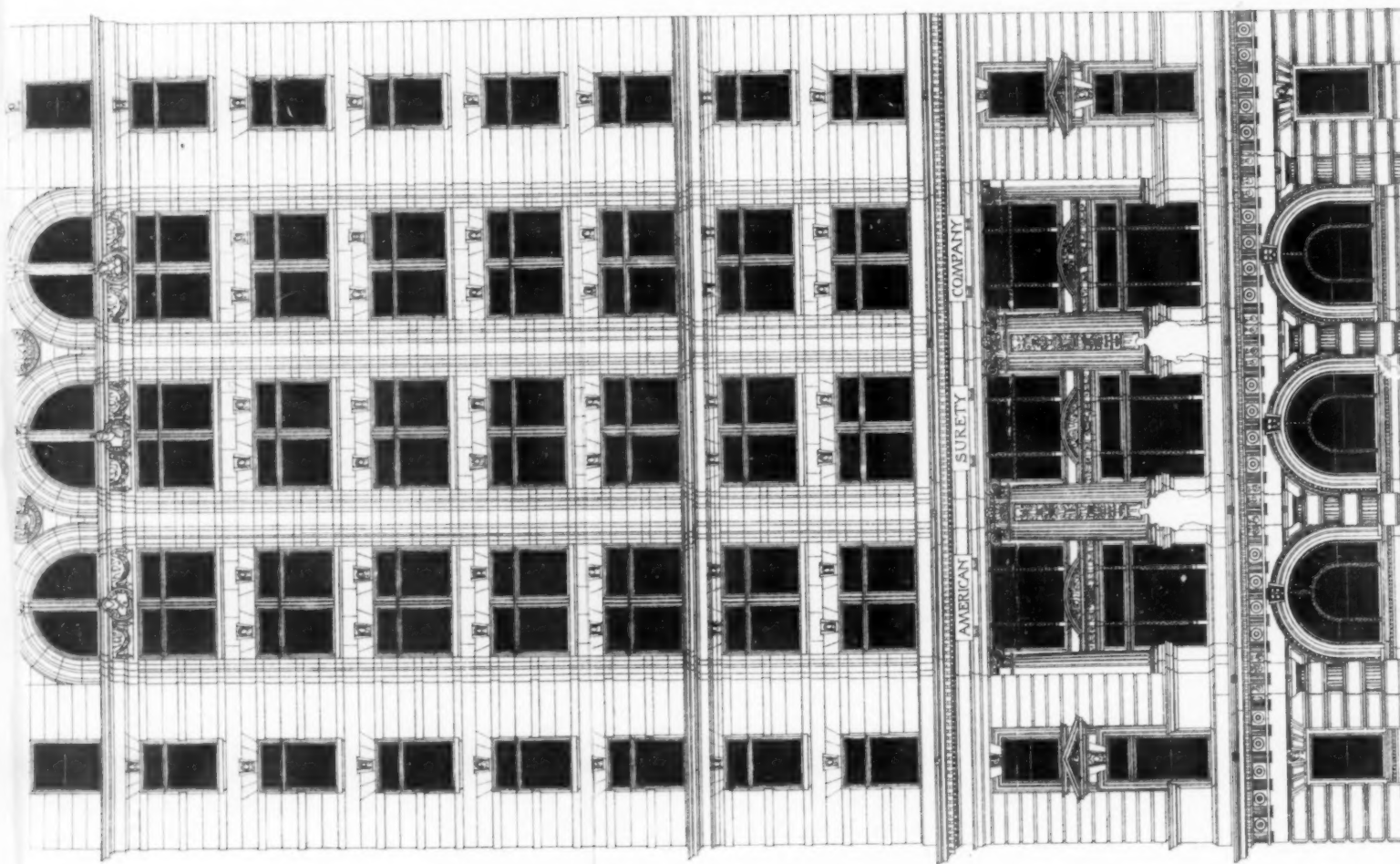
No. 953. AMERICAN ARCHITECT AND BUILDING NEWS, May 5, 1894.

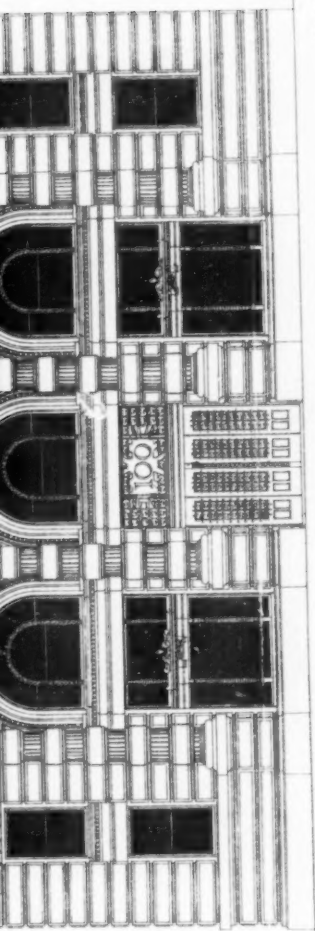
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THIS DESIGN OF CORNICE
OF BRASSIE METAL,
SHOWN AS A BALCONY.

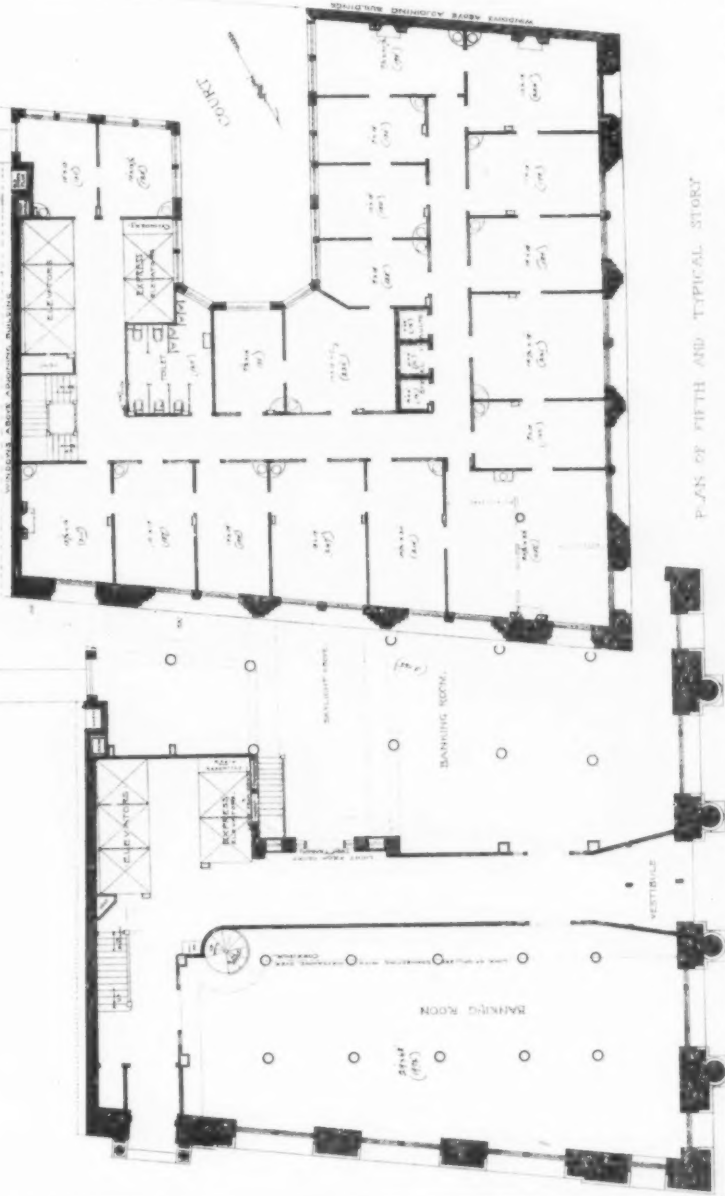






ELEVATION ON BROADWAY

*The American
Surety*



PLAN OF FIFTH AND TYPICAL STORY

AMERICAN SURETY COMPANY

PLAN OF FIRST STORY

HELIOTYPE PRINTING CO. BOSTON.



HELIOTYPE PRINTING CO. BOSTON

THE TARRANT BUILDING, NEW YORK, N. Y.

HENRY RUTGERS MARSHALL, Architect.



HELIOTYPE PRINTING CO. BOSTON.

FRAGMENT OF A VENETIAN FACADE.

MISS K. M. HUGER.