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SUMMARY:—

Threatened Strikes in the West.—A Machinists' Quarrel in New York.—The Mississippi Levee System's real Worth.—Floods, Tree-planting, Tree-felling.—The Would-be Supervising Architects.—Extra Work may create a Waiver of the Time-limit: an English Case.—The Part played by Iron in the Disintegration of the Parthenon.	9
THREE MEDITERRANEAN GARDENS.—I.	11
THE ARTS AND CRAFTS EXHIBITION.—I.	13
LETTER FROM NEW ORLEANS.	14
BOOKS AND PAPERS.	14
BUILDING LAW: TIME.	15
SOCIETIES.	15

ILLUSTRATIONS:—

Southeastern View of the Library of Congress, Washington, D. C.—Renaissance Domes, No. 1: Chapel in the Courtyard of S. Pietro in Montorio, Rome, Italy.—Renaissance Domes, No. 2: Plan, Section and Elevation of the Same.—Renaissance Domes, No. 3: Church of the Val de Grace, Paris, France.—Renaissance Domes, No. 4: Plan, Section and Elevation of the Same.—Accessories of Landscape Architecture, No. LI: St. Peter's, as seen from the Vatican Garden.—Accessories of Landscape Architecture, No. LII: Loggia in Front of the Casino del Papa in the Vatican Garden, Rome, Italy.	15
Doorway of the Cathedral, Como, Italy.—Sketches in the Latin Quarter, Paris, France.	15
Additional: Detail of Main Staircase: Library of Congress, Washington, D. C.—Southeast Pavilion: Library of Congress, Washington, D. C.—South Aisle, looking West: Winchester Cathedral, Eng.—Business Premises, Heesle Road, Hull, Eng.—Business Premises, Holderness Road, Hull, Eng.	15
NOTES AND CLIPPINGS	16

AMONG the April strikes threatened is one in Cleveland, Ohio, where all men employed in the building trades, and members of the unions, are said to have demanded an eight-hour day, together with an agreement on the part of the master-builders that no one shall be employed who has not a "union card," that is, a permit to earn an honest living, signed by some saloon-keeper or labor demagogue. The contractors are said to be quite ready to agree to an eight-hour day, and, in the present condition of business, it is probable that they will take as much satisfaction as the men in operating on reduced time; but the demand that they shall join a conspiracy to starve every one who does not belong to a certain gang is too much for their stomachs, as it has been for those of honorable men everywhere, and it is likely that it will be refused.

THE labor troubles in New York have taken on a phase which is rather new. Instead of using their power to deprive of employment every one outside the ranks of "organized labor," the constituent portions of the latter body have turned their attention to getting away one another's jobs; and, being experienced in the arts of coercion, the spectacle of their mutual combats is an edifying one. The last family squabble of the kind has broken out between the Machinists' Union and the Elevator-Constructors' Union. It may be imagined that the boundary-line between the kinds of work to be monopolized by each of these bodies is a very indefinite one, and the peace has been kept between them only by the payment of a tribute by the Machinists' Union to the Elevator Constructors' Union, in consideration of which the latter permitted certain work in connection with the installation of elevators to be done by the machinists. Until recently, both these unions have been represented in the Board of Walking-Delegates, and this circumstance probably helped to keep the peace between them, as the Board can easily coerce its members into good behavior; but the elevator constructors have now severed their connection with the Walking-Delegates, and the machinists, finding their adversaries isolated, have refused to pay the accustomed tribute, claiming, at the same time, the right to do the work conceded to them in consideration of its payment. The elevator constructors, naturally enough, refuse to continue the concession without being paid for it, and

the great elevator companies have sided with them, and deputed elevator men, instead of machinists, to set up pumps and motors, and do other work formerly performed by the machinists. The latter have appealed to the Walking-Delegates, and the prospect is that sympathetic strikes will be ordered on the high office-buildings now in process of construction, to enforce the machinists' demand.

THE New York Times has an editorial about the Mississippi levee-system, which is likely to do harm by misleading thoughtless people in regard to the value and importance of the work which is annually done on that river's banks. It says that "The attempt to confine and control the waters of the river by means of them [the levees] and to prevent overflows by keeping it within a fixed channel, was a predestined, and is a demonstrated, failure"; and it explains its opinion by saying that the system which "undertakes to confine the lawless stream within a certain restricted channel by artificial banks" results in causing the suspended soil brought down by the "muddy Missouri" to be deposited between those "artificial banks," raising the bed of the stream proportionately, and that the floods of the following spring, sending the same volume of water through a shallower channel, rise higher, so that the levees must be constantly raised, or inundations are inevitable.

ALL this is true, to a certain extent, but the Times forgets to say what it would substitute for the present system. It may be assumed that, until the people of Nebraska and Missouri and Wyoming and Dakota get trees enough planted to hold the soil of their States in place, the Missouri will continue to be muddy, and the suspended matter which it brings down will continue to be deposited somewhere along its course, or that of the Mississippi; and the task which has occupied the United States engineers for a century is to lead that deposit to be made in such a way as to cause the least injury. In old times, when no attempt was made to "confine the lawless stream," the silt was deposited irregularly by the eddies of the current, forming banks which might, and often did, suddenly deflect the entire current of the river into a new channel, destroying some farms, changing the relations of others, undermining banks, and spreading annual destruction through the valley, just as is still the case in Russia, China and other places where large rivers, uncontrolled, flow through alluvial plains. The remedy which the experience of three thousand years has shown in Europe to be the only reliable one consists in "canalizing" the stream, that is, in straightening it, so far as possible, by building artificial banks, where the natural ones are low, and in removing obstructions and irregularities, so that the water may at all times flow as directly and swiftly as possible, and keep its own bed scoured out, by preventing it from leaving its channel, and, by eliminating the causes of checks to the steady flow, promoting the transportation of suspended matter to the sea, or to the lower reaches of the river, which are less affected by the mountain freshets. This is the system which has been applied to the Mississippi River, and, far from being a "predestined and demonstrated failure," it has been, in general, very successful. It was to be expected that the control of so vast a stream would be difficult, and inundations still occur, not always, as we have heard whispered, without the connivance of some of the abutting proprietors, who have found the top-dressing of their farms with fresh Nebraska loam, added to a substantial sum in cash by way of damages, a very satisfactory equivalent for the loss of their spring planting; but they are insignificant in comparison with what might occur if the "lawless stream" were left uncontrolled; and a large proportion of the sediment which, without such canalization, would be deposited in shifting banks through Mississippi and Arkansas and upper Louisiana, is now carried far out into the Gulf of Mexico, by the force of the current alone. Of course, as the Times says, the gradual silting-up of the river-bed will make it necessary to raise the levees; but this is a simple process. It might be thought that the raising of the levees and the river-bed will go on indefinitely, and the Times seems to have some such idea; but it is obvious that after the channel has reached a certain height, so that its bed is above the level of the surrounding country, a new channel can be formed for it, in such direction as the engineers find best. The Mississippi channel, below the confluence of the

Missouri, is still extremely tortuous, and the silting up of its bed will be a positive advantage in enabling the Government engineers to straighten its course gradually, by forming new channels across the chord of the innumerable bends.

THE American method of constitutional government by the people's representatives is just now so narrowly resisting the attacks of mercantile cabals and political chicanery that there is small use in making outcry over the raid that is being organized on the office of the Supervising Architect and its present incumbent. Although it is known that the office was brought under the civil service rules by President Cleveland, not one architect, but many, are pushing their "claims" to the place with all the adroitness of political wire-pullers. If there were a single one of these many aspirants who was a more honest man or a greatly better architect than Mr. Aiken, the success of the raid might be awaited with equanimity, but, as might be expected in the case of an inadequately paid office, there are no men of high attainment who are striving for it, even in dull times. The profession generally is content to consider Mr. Aiken a satisfactory *locum tenens*, so long as the Government persists in maintaining a bureau of design, and is ready to agree that he has brought about a marked and advantageous change in the character of work sent out from the office during the last year. If the politicians succeed in getting around the civil-service law, it will but be one more humiliation the American citizen has to suffer. If the law stands and Mr. Aiken is in some way removed, we believe that veterans of the military and naval service have the first chance of reinstatement. Of such veterans there are few in the profession and none, we believe, in the list of applicants. These failing to appear, the office can be filled by promotion: but political rancor probably lies as much against the underlings as against the present head of the bureau. In the last place the office can be had by passing a civil-service examination and it will be rather an interesting experience for the several applicants, every one of whom would probably resent being examined in order to secure a "license" after the manner of the suggested New York law—examinations being always devised for the perplexing of those outside the ring that procures them to be held.

A GOOD illustration for the necessity for care in drawing up contracts is to be found in a recent English decision in a building case. A builder contracted, for £664, to make certain alterations and additions in a house. The contract recited that every part of the work should be done to the satisfaction of the architects, and that their directions should be followed in every respect, and their opinions on all questions relating to the works or contract should be final and conclusive. It also said, "Any authority given by the architects for any alteration or addition, in or to the works, is not to vitiate the contract, but all additions, omissions or variations made in carrying out the works, for which a price may not have been previously agreed upon, are to be measured and valued," etc. Clause 24 said, "The whole of the works to be completed by June 1, 1892, under a penalty of two pounds per week for every week that any part of the works remains unfinished after that date, as liquidated damages." Extra work to the value of about twenty-three pounds was ordered. The building was not finished until twenty-seven weeks after the stipulated time, and the owner, allowing two weeks for the extra work, claimed fifty pounds as liquidated damages for twenty-five weeks' delay. The builder sued, and after three trials, the Court of Appeal decided, confirming the judgment of two courts below, that he was entitled to the money, on the ground that the owner, by ordering extra work, waived the stipulation by which damages were to be paid for delay. The experienced writer of building contracts will notice at once the omission in the clause relating to completion, which says only that "the whole of the works," instead of "the whole of the works, including all alterations and additions, should such be ordered," are to be completed on a certain day, and will not be surprised at the decision, which, of course, is only the Court's interpretation of the actual contract.

THE Master of the Rolls, in giving judgment, stated the English law concisely. In *Holme vs. Guppy*, the rule had been laid down that if the building owner ordered extra works beyond the specified works, which increased the time necessary for completion, he was disabled from claiming penalties for delay in completion. In *Westwood vs. Secretary of*

State for India, it was held that the fact that the contract entitled the building-owner to order extra work did not prevent the application of this rule; but in *Jones vs. St. John's College*, it was stated in the pleadings, and admitted, that the builder had agreed, if extra works were ordered, to complete the entire work, including these, within the stipulated time; and the Court held that if he had been foolish enough to agree to that, he must take the consequences. In the present case, the contract contained no such provision, and the rule of *Westwood vs. Secretary of State* would apply, by which the owner, although entitled to order extra work, deprived himself by doing so of the right to claim penalties. It is probable that courts in this country would hold substantially the same view of the subject as the English Court of Appeal, but owners and builders, as well as architects, would do well to avoid resorting to them by stipulating exactly what they mean in the contract. If the owner wishes to order extras or changes, without abandoning altogether the stipulation as to the time of completion of his building, he must say so in the contract; or, if he has not said so, he must, with every order for changes, make a supplementary agreement with the builder as to how much extension of time, if any, shall be allowed on account of them, and this will, like every other prudent and explicit understanding on such matters, protect both parties.

MR. EDWARD ROBINSON writes to the *Nation* to say, that in his opinion, which is also that of Signor Boni, the Italian National Inspector of monuments, the cracking of the stones in the Parthenon, which has begun to show itself to such an extent as to threaten the speedy destruction of the building, is due, not to seams in the marble, but to "the iron clamps with which all the blocks are joined together." We imagine that architects unfamiliar with the Parthenon repairs will ask in amazement by whose advice or authority the stones in this most precious of all buildings in the world were joined with iron clamps. It is hardly too much to say that every educated architect in the civilized world knows that the insertion of iron of any sort in stone exposed to moisture inevitably destroys the stone sooner or later. The doorsteps and area fences of every city give ample evidence of this, in the bursting, even of granite, around the insertion of iron posts. In the Parthenon, so long as it was covered by its roof, and the stone sheltered and kept dry, iron might have been used with safety, but for more than two centuries it has been a ruin, exposed to the infiltration of rain, and the moisture thus allowed to penetrate to the interior of the blocks has rusted the iron clamps, with deplorable consequences. Mr. Robinson says, that it is "almost, if not quite, literally true, that there is not a block in the building in which one cannot trace one or more cracks radiating from the clamp inside to the outer surface." "Nothing but cohesion," he goes on to say, "holds the crumbling structure together, and the jar of an earthquake or . . . the shell of a hostile gun, might send the building into splinters in an instant." What is to be done to prevent this calamity he does not say of his own knowledge, but quotes Signor Boni's opinion, to the effect that nothing will answer but to clear out and plug every crack, and waterproof thoroughly the exposed surfaces of every stone. Whether even this will answer we are not so sure, for oxidation, once begun, is not easily arrested, but all civilization will regard it as imperative that something effectual should be done at once.

AS a matter of archaeology, it would be interesting to know when the original iron clamps were put in. Mr. Robinson's letter conveys the idea that they were inserted when the building was erected; but, if we are not mistaken, other contemporary work is clamped with bronze, and the innumerable holes, like bank swallows' nests, in the old walls on the Acropolis, are attributed to the industry of the Athenian populace, who have, with enormous labor, dug out the clamps, in order to sell them for a few cents each. If the other Athenian architects of the time of the Persian Wars knew enough to clamp their marble blocks with bronze, why should not Ictinus have done the same? And if he used iron instead of bronze, why did he do so, and at what date was the change in the system made? All these are questions of much interest. It is true that the modern clamping has been done with iron, but this alone would not, apparently, be sufficient to account for the trouble.

THREE MEDITERRANEAN GARDENS.—I.



A View in Taormina.

SO much is being said now about Italian gardens and the formal lay-out of landscape accessories to architecture, that it seems as if a little discussion of the style of gardening which prevails in the south of Italy and Spain would not be inappropriate in these days of work in staff and plaster. The Roman villa with its dignified and formal effects of vistas, stairways and clipped hedges is claiming so much attention that the quaint little gardens and terraces which cling to the sides of the precipitous coasts of the South are in a fair way to be overlooked. The object, then, of these three papers is to illustrate the peculiarities of these gardens and suggest their possibilities of imitation.

The first thing one notices about them is the material of which the walls and seats are constructed. In the north, stone or rubble, with mud-colored or yellow plaster, is used for the structural parts of the composition, while in the south a concrete, plastered a dazzling white, like the houses of the natives, prevails, and the effect of this in contrast with the brilliant flowers or glossy, green foliage of the orange and lemon trees is as striking as it is novel. These gardens are seldom as large or ambitious as those of Rome or Florence, but for quaintness and adaptability to their often narrow and steeply sloping sites they are among the most interesting and attractive objects of the wonderful Mediterranean coast.

The objection that this sort of work is not suited to our climate and customs seems scarcely valid, if we think of the work at the World's Fair, the recent work in Florida and California, and the growing tendency towards Italian-villa models in summer-house planning. Not only is it striking and original in its color-effects, but

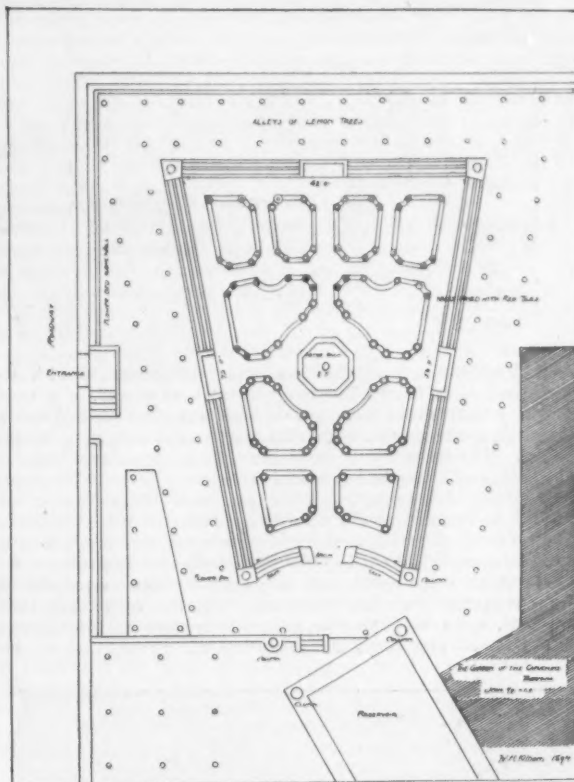


the gay and festive air so desirable for a place of recreation is much more pronounced than in any other style.

These articles will deal with typical, though not perhaps prominent, examples of gardening in Southern Europe, considering particularly the gardens at Taormina, Amalfi and Granada.

I.—TAORMINA.

High up on a rocky promontory of the bold Sicilian coast lies the lovely mediæval village of Taormina. It is reached by a couple of hours' railway run from Catania, in the direction of Messina, over the black lava beds which line the shore for miles. Just out of Catania the line crosses the great lava stream which covered the country two-and-a-half centuries ago. The rough and tortured forms of



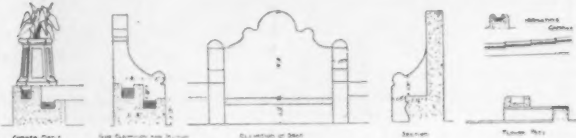
the lava waves are fast crumbling into the richest of soils, and trees and vines grow luxuriantly in the crevices. All this region is the garden of Sicily, and the gently rising slopes of Etna are covered far up with farms and plantations. Many are the stories told of the advance of the resistless streams of 1669; how one stream was diverted by the pious inhabitants, who advanced holding aloft the sacred veil of St. Agatha, at the sight of which it turned aside and ran harmlessly into the harbor. In another part of the town, the men, finding that by breaking the half-hardened crust on the side of the stream, the liquid interior would flow out, succeeded in turning it towards a neighboring village, the inhabitants of which to the number of five hundred, not having any wonder-working veils, took up arms and stopped the unneighborly action.

A little farther along, while still running through the delicious groves of lemons, one can see from the train the three great rocks hurled by the blinded Polyphemus at the crafty Ulysses, as he sailed tauntingly away: the largest of these rocks is over two hundred feet in height.

From Giardini, the railway station for Taormina is reached by a winding road up the mountainside, which, after a dozen loops and curves, swings suddenly around, to pass under a gray old city gate, and become the paved main street (Corso Umberto) of the sleepy, grassy old town.

To most travellers who make the ascent the place is known for its antique theatre and remarkable views; but to the fortunate architect who finds his way thither, the place is full of a new and strange interest. Street on street is full of Gothic palaces, charming fountains, bits of carving and inlaid work.

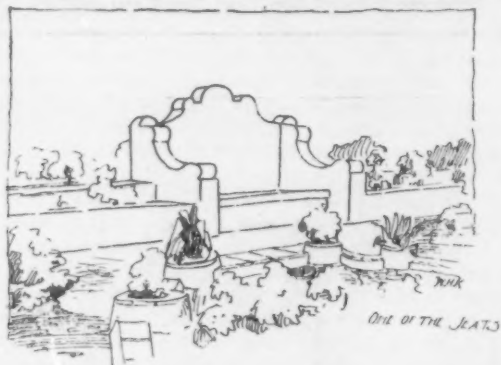
Unspoiled by modern innovations, the streets present the aspect



they have for years, and in place of prosaic iron pipes buried in the ground, the only sign of water-works is the line of sunburned dames with vaselike jars deftly poised on their round heads, who all day long pass to and fro, bringing the water to the houses from the moss-grown Roman aqueduct outside the gate.

If you take the road leading out of the eastern end of town, and follow up the grassy lane beside this old Roman aqueduct, you

come to a deserted church, just beyond which there is a doorway in a high garden wall. The church belongs to an old convent of the Capuchins, and inside the door is one of the quaintest little rose-gardens to be found in Sicily, and I cite it here as the first of my examples of what might be called the "concrete gardens" of the Mediterranean. The gleaming white walls and bright colored flowers are



framed by a thick hedge of brilliant, glossy foliage, mixed with the yellow spots of the fruit. The irregular plot of ground, in a space bounded by the convent buildings, the road and a cliff, is laid out in a little triangular garden with alleys, seats and irrigating system complete. The boundary walls of the triangle are about two feet high outside and fifteen inches inside, the resulting steps being formed into two strips of flower-beds. Midway of each side is a quaint seat of rococo design, and at the corners are vases or plaster columns. In the centre of the triangle there is a basin and water jet, and the rest of the space is laid out in little flower-beds with miniature white, concrete walls, capped with red, unglazed tiles, and separated by alleys paved with the same materials. At the corners of these flower-beds, again, are little pots, made in the same way of concrete, with tall tops. The alleys are thirty-two and twenty inches wide,

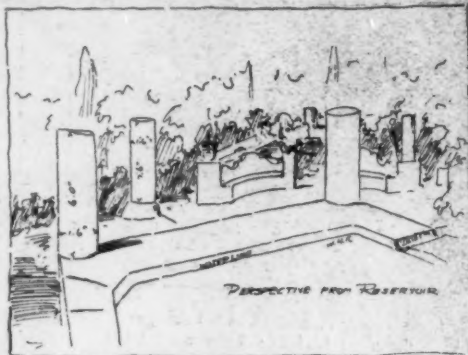


A Taormina Fountain.

and the triangle has a base of forty-six feet, the two inclined sides being seventy-six and sixty-two feet in length, respectively. The apex is cut off by a concave curve, with seats inside and outside, covered with red tiles (forming outside a sort of exedra), and in the centre is an archway much overgrown with a flowering vine. It is needless to say that the original white is toned down by the black,

spotty patches of moss which almost cover the surface, and give it the indefinably mellow air of antiquity.

A few steps raised from this level there is another terrace, with a deep reservoir adorned with plaster columns about six feet high, serving as supports for more running vines; and across the end in a series of tumbling leaps goes the old aqueduct, high in air. The

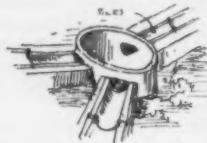


water is distributed over the lot in little flumes, made of the ordinary semi-circular roofing-tile, inverted and laid on a plaster bed, with the turns and Y's naively effected by sunken earthenware pots with holes knocked in them to allow the passage of the water.

In other parts of Taormina are gardens quite as fascinating. The walls of the flower-beds and the water-basins are often cased with bright-colored glazed tiles, as in the photographs, while some old architectural fragment, from theatre or ruined palace, often gives a motif for the arrangement of some niche or gurgling fountain on the axis of the vistaed alleys. One lofty orange-garden gets a peep down a shady alley, out over the blue sea, through a double opening in a high wall with graceful arches and sculptured capital. The black lava of Etna is much used for inlay work, and the balustrade effect shown in the sketch below is made by employing this material.

The Greco-Roman Theatre, the best known monument of the town, stands on a high promontory from which is had a magnificent view, ranging from the Straits of Messina, the Mountains of Calabria and the long line of the Italian coast, around the horizon to the graceful and snowy cone of Etna at the opposite side. The people of the town seem to be a gentle-mannered race, less hard featured than other Sicilians, and rather more prosperous. That they are kindly disposed toward strangers I gathered from a unique special performance of the carnival festivities which their procession tendered our group of sketching architects in the middle of the Corso, accompanied by many and pressing invitations to the evening frolics. It being a rather dull year for tourists, on account of the insurrection in the eastern end of the island, our acceptance was one of the features of the day and at the close we were escorted to our hotel by a numerous and enthusiastic guard of torch-bearers, who carefully lighted us step by step down the rough and winding lanes.

If the limits of this article included the concrete architecture of the south, it would be indefinitely extended. The terraced and arcaded dwellings often mingle so with their gardens that it is hard to say where one stops and the other begins. Even the humblest seem to have some attempt at systematic lay-out, as, for example, this little wine-shop outside the gate with its symmetrical arches



and high-backed seats facing each other on each side of the entrance.

Greek, Carthaginian and Roman, Saracen, Frenchman and Italian have successively struggled for this lovely town, and each has left some traces of the beauties of his particular style on crumbling walls and once splendid palaces. In stately pillar and traceried arch, in sculptured fountain and terraced garden, few towns possess such treasures as does the little Sicilian village of Taormina.

WALTER HARRINGTON KILHAM.

[To be continued.]

THE ARTS AND CRAFTS EXHIBITION.—I.

WHETHER the title of the exhibition just opened in Boston was selected in an access of Anglomania, or because it promised to make a good handle for the enterprise, considered from an advertising standpoint, is not very material. But it is material to know what is an "arts and crafts" exhibition and how it differs from an "industrial-art exhibition" or a "decorative-art exhibition." What does it show and stand for that these others do not, and if there is a real difference, how does this exhibition prove that the difference exists? We apprehend that it was intended to convey by the title, that here were to be gathered not the works of artists in one branch or another of art working as individuals, certainly not the output of dilettante and amateur workers, but rather the work of those skilled artisans—or craftsmen, to be quite English—whose names and identities are lost sight of and unknown outside the walls of the shop or factory which stamps its name upon the works due to their individual artistic skill and manual dexterity. Perhaps this was not what the projectors of the exhibition expected would be conveyed by the title of the show, but it clearly seems fair to assume that that should have been the understanding, and for a moment to consider the outcome from this point of view. When this is done, it is found there is a little incoherency and some inconsistency. Some of the exhibits are offered in the name of the designer and as executed by a given manufacturer, and this—the proper way—has been followed in the greater number of cases. But there are a few conspicuous cases where this rule has been violated. Perhaps it is merely a reminiscent sympathy with the romance of Quentin Matsys that excites the feeling, but we are really very sorry to note that the identities of the individual craftsmen who created one of the very fascinating exhibits of wrought-iron work have been buried under the well-known name of their employer, John Williams [H. B. Stillman]; and in like way it seems that due honor should have been awarded to the authors of some of the fine designs shown by the Yale & Towne Mfg. Co. Possibly the commercial danger there is in exposing a valued employé to the temptation of a higher wage offered by a rival employer may have prevented some of the exhibitors from securing to the artisan his real share of public praise.

On the whole, authorship has been so generally credited to the actual designing workman that the craft part of the exhibition's title seems to be fairly earned. But it is not, in spite of this, very clear, how this show is differentiated from the ordinary show of decorative art. Indeed, as one looks about the room there is more of the ladies'-bazaar air than we were prepared to find, although this is due mainly to the amount of space that had to be given up to embroideries, which, of course, to be properly displayed, call for an amount of room which can only be had by crowding out exhibits that to the masculine mind are more attractive. And yet, of actual crowding there is very little, in spite of the hall's being rather small for an exhibition where things having considerable bulk must be shown. In fact there is so much free space for circulation that the first thought is, that the managers have not been very successful in interesting exhibitors and have not been able to fill their space; but as one begins his examination and finds how high a standard of excellence has been demanded, he grows to feel that the Advisory Board has performed its functions rigidly and must have declined to admit a good deal of matter of questionable interest or indifferent execution. And yet some classes are so meagrely filled that their very slimness takes credit from the work that is shown through the absence of a present standard of comparison.

In one particular field the exhibition is particularly impressive and quite properly that field is devoted to books and book-making, for in the catalogue we find four several groups which contain about one-ninth of all the numbers in the catalogue. Of late years Boston printers and publishers have found themselves obliged to give more attention than formerly to the make-up of their books, if they hoped to hold their own against the great progress that the publishers and printers of Chicago have made, but they have given attention to the decorative character of their bindings rather than to the character of the type-matter. It takes a good many of Mrs. Whitman's pretty designs for book-covers to cancel the wrong done by marketing standard editions printed from plates that were worn out long ago, and the still greater wrong done to the eyesight of our school-children by forcing such blemished work upon them for use as text-books under the ordinary unsatisfactory conditions of school lighting. Binding and hand-made paper and deckle edges are all well enough, but it is the typography, and not these things, that make a book satisfactory to the user, and it is a pleasure indeed to find one publisher—who works in a single and rather limited direction, to be sure—giving extreme attention to his type and printing: the exhibit made by Mr. Updike is one of the most attractive in the room, although it is the work of a specialist and would be over-wearisome if it abounded on our bookshelves.

The exhibits in several places of a number of very ingenious and artistic book-plates, by Edmund H. Garrett, Theodore Brown Hapgood, Jr., Harry Goodhue, the Misses Brown and particularly those of Miss Amy M. Sacker, lend vivacity and interest to the show-cases in which they are exposed. In the same connection, attention may be drawn to the leather case or book-holder, designed and executed by Mr. George R. Shaw, which is shown in a small case with a few other samples of tooled leather-work by other exhibitors. This work

of Mr. Shaw's is merely one indication that architects now and then find relief and enjoyment in acquiring dexterity in some of the industrial arts, and we rather wonder that there are so few exhibits of this nature, the only other one shown, we believe, being the reredos designed and embroidered by Mr. R. Clipston Sturgis.

One other book-maker's exhibit it is worth while to refer to, and that is the extremely accurate and painstaking illustrations of the Oriental pottery in the Walter's collection, which have been prepared with so much cost and expenditure of time by L. Prang & Co. Not only is the work extremely meritorious in itself, but it has about it something of pathetic interest, for we believe that the old gentleman, to whom the art of color-printing owes much, not only regards these plates as his greatest achievement, but also possibly his last. More than this, the plates may, perhaps, be almost the last product of the art of chromo-lithography, since this costly and time-consuming art can hardly long endure the inroads being made upon it by "three color" work, or the still more marvellous success which M. Chasagne seems likely to make with his wonderful discovery of photographing in natural colors.

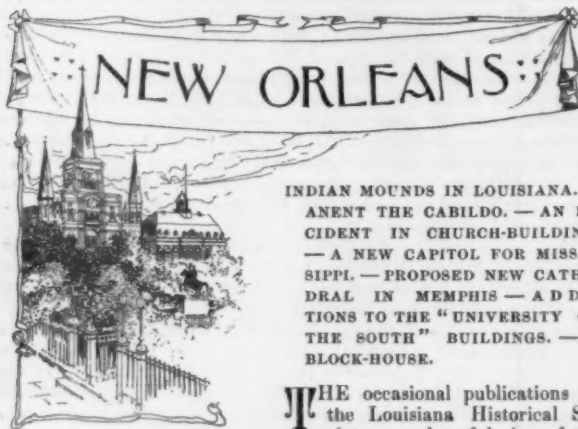
But, to go back to the consideration of the general aspect and character of the exhibition, are not many of these exhibits the work of amateurs and not of craftsmen and does not a too large percentage of the exhibits consist of just the sort of work that belongs in a "decorative art"—of the amateurish kind—exhibition rather than in an exhibition of the crafts? We do not mean to be hypercritical, but as we certainly expected to see an exhibition of a different kind from that actually arranged, we can only charge such slight disappointment as we feel to an American misapprehension of an English term. The only way, seemingly, to discover whether it would be possible to gather such an exhibition of the crafts as we conceive, would be to undertake another exhibition next year and have it put in the charge of a committee of artisans or craftsmen. It is possible that their taste might run mainly to "shop displays" of highly-finished pieces and complete sets, and not, as one would hope, to the exhibition of work in its most attractive form—the stage that comes just before the final smoothing off and polishing. The exhibition we have here is one that more or less acceptably meets the approbation of a committee of architects, artists and educated men, who not only may be called arbiters of taste, but also are members of the purchasing class. What we would like to discover is what the real standard of taste is in the ranks of the toiling slaves of artistic fashion, the manual creators of artistic things which they can neither purchase nor use. Perhaps an interesting revelation might be made as to the value of our present methods of education, and the changes it is desirable to make in them.

One can see in the shops any day just as good silverware, just as inconvenient furniture, just such glass, tiles, pottery, jewelry, books, engravings and so on. But what one cannot see in the shops every day are just the things one should be able to see in such exhibitions as this. It is possible that by showing the craftsmen's work in successive stages the exhibition would become an "industrial exhibition" and not an exhibition of the "arts and crafts," but we think it would be more useful, more attractive, and would certainly enhance with the public the appreciation in which it holds those nameless artisans who minister to its mental pleasures and creature comforts: who make luxurious parlor-cars, yet never ride in them, who fashion beautiful silver services, yet never eat from them, who create exquisite jewelry, yet never wear them—those unknown skilful thousands in whose ranks are surely hidden as much feeling and artistic knowledge as is possessed by the practitioners of the more favored arts who have acquired the privilege of "signing" their work.

It is so impossible to write of any exhibition so as to interest people at a distance that we have preferred to pay our respects to this exhibition in this way rather than by particularizing any of the exhibits. Is it really of any interest to any one beyond the persons actually mentioned, to say that Charles R. Lamb and Ella Condie Lamb show a wholly charming mosaic panel of the Christ Child: that above it hangs an interesting panel decorated partly in color and partly by poker-work, by Gabrielle D. Clements, and that this is balanced on the other side of the stage by a very knowing set of half-a-dozen saints in color and gilt, for an altar-screen, by Cram, Wentworth & Goodhue: that in the side room is an interesting exhibit of a patented process of "brulegrature" work, made by John W. Robbins: that one of the most attractive bits is a corner group for a plaster frieze, designed by R. C. Sturgis, and modelled by Domingo Mora: that the tooled leather, exhibited by Baldwin Bros. & Co., is interesting if not beautiful? It seems to us that in the case of a small and carefully selected exhibition it is hardly worth while to do this. The very fact that it is small and carefully selected gives assurance not only that the exhibits are worth seeing, but that they are so disposed that nothing is likely to escape the scrutiny of an interested eye. The severity of the judges has made the several groups so small that it would be needful to go to too great a length to do even-handed justice to all that is deserving of comment. There is nothing of such commanding excellence that it requires full description, while there is almost nothing in the collection that calls for unkind but salutary criticism. The exhibits are interesting, carefully selected, fairly well arranged, and yet we could not but re-echo the answer given by the colored porter of the building to a tenant who asked, as he passed by, whether the Arts and Crafts Exhibition were interesting: "Oh, it's very much as usual." And yet we realize that we are responsible ourselves for whatever slight disappointment we feel.

Upon one point we wish to express our warm approbation: the catalogue is not only generally free from error and typographically attractive, but it is a catalogue pure and simple, and so both useful and agreeable to use, as it has neither unneeded illustrations, nor equally unneeded advertisements, and because of this it affords a grateful contrast to the catalogue of the adjacent architectural exhibit.

[To be continued.]



INDIAN MOUNDS IN LOUISIANA.—AN INCIDENT IN CHURCH-BUILDING.—A NEW CAPITOL FOR MISSISSIPPI.—PROPOSED NEW CATHEDRAL IN MEMPHIS.—ADDITIONS TO THE "UNIVERSITY OF THE SOUTH" BUILDINGS.—A BLOCK-HOUSE.

THE occasional publications of the Louisiana Historical Society are a hopeful sign of the times in this rather backward city. The latest of these is Part IV of Volume I, containing, with other things, the minutes of the seven meetings held by the Society in 1896, and an important paper by Prof. George E. Beyer, of Tulane University, upon the Indian Mounds of Louisiana. This paper is in the form of a report of the manner in which a commission from the Museum Department of Tulane and from the Historical Society, to investigate the so-called Catahoula Mounds, was fulfilled. The investigation was extended to three separate groups of mounds in the adjoining parishes of Catahoula and West Feliciana, and was scientifically made, with the result of furnishing cumulative data to aid the scientist of the future in determining positively who were the mound-builders. The Tulane Museum is materially enriched by the spoils of the expedition, consisting chiefly of skulls and pottery. One skull was noted, the frontal bone of which was seven-eighths of an inch in thickness; and another, whose dentition reached the unusual number of forty teeth, the increase consisting of eight additional incisors. The explorations of Professor Beyer have awakened a local interest which Tulane and the Historical Society are not likely to allow to die out.

At its meeting in May, 1896, the Historical Society was asked to assist in framing a legislative act to convert the Cabildo (the old Spanish building flanking the Cathedral in New Orleans) and the present District Court Building into a State Museum for the preservation of relics and natural-history specimens. What was primarily intended was the permanent conservation of an architectural relic of great value, the Cabildo, whose destruction is threatened. But the Society did not feel that it could take action in the matter so long as the buildings were occupied by the courts, though a declaration was made, favorable to the establishment of a museum independent of these buildings.

Here is an incident in church-building that seems worth telling: A certain rector in a prosperous town not far from this city, desired to erect a new church for the accommodation of his rapidly increasing congregation. Impressed with the magnitude of the undertaking, he applied to a fellow-clergyman in this city, for advice and suggestions. The city rector had recently passed scathless through the trying experiences of church-building and was supposed to have "ideas" on that subject. When that stage was reached, the two clergymen met to consult over a design that had been submitted, like many another church design, by a very competent builder, but one whose knowledge of ecclesiastical architecture was scarcely rudimentary. "You have here," said the city rector, "a fine design—for a town-hall, or an engine-house. But it is not in the slightest degree churchly." Perhaps the city rector was not able to give intelligible expression to his ideas of church architecture. At all events, his persuasive eloquence proved unavailing and the rural rector remained fully satisfied with the design that had been submitted to him. Something occasioned a delay in the definitive adoption of the submitted design, and a year later, finding that work on the new church had not yet been begun, the city rector wrote to his rural brother: "At least, I hope you will not adopt a design and begin building operations, until you have carefully read a series of papers in the *American Architect*, upon 'Christian Architecture,' by Mr. Barr Ferree." This suggestion was acted upon. And some time later the city rector was gratified to learn from his provincial brother that the previously submitted design had been rejected and that an entirely new set of plans had been prepared by an architect, in accordance with the principles laid down in the papers commended to his attention. The new church-building is progressing finely and your correspondent hopes to be able ere long to submit a sketch of a church which he regards as a direct result of that admirable series of papers. May those papers become more generally known to the clergy and to church building-committees!

It is probably no news to your readers that the State of Mississippi proposes to build a new capitol at Jackson to replace a building that scarcely withstood the ravages of war and has been threatening to collapse ever since. The State hopes to accomplish all that it has in view by an outlay of \$750,000. But probably the State of Mississippi will learn many things before it gets through.

The Diocese of Tennessee is contemplating the building of a new cathedral in Memphis, the See City. The work is in the hands of the Bishop Coadjutor, the Rt. Rev. Dr. Gailor, who has made choice of Hereford Cathedral in England as his model, and had designs and plans prepared by the late William Halsey Wood, embodying the chief features of that building. The estimated cost, under exceedingly favorable conditions as regards obtaining building-stone, is \$75,000.

The late Dr. Hoffman, of New York, among the last benefactions of his life, gave \$50,000 to the University of the South, Sewanee, Tennessee, for the erection of a much needed dormitory. Work thereon is to begin at once. Thus the University of the South will take another step towards the realization of a scheme of scholastic architecture, which, if fully realized, will scarcely be surpassed in this country.

While so much attention is being bestowed upon old Colonial buildings, it may be of interest to the reader to see a representation of one of the oldest forms of Colonial architecture. The accompanying sketch is vouched for as an accurate representation of a block-house which was standing in Nashville sixty years ago, not many yards distant from where the American Institute of Architects sat in convention last fall. It was twenty feet square upon the ground, but at the height of six logs from the ground it widened to twenty-three or twenty-four feet, and a floor was laid. Strips were nailed across the roof to enable



the defenders to climb up its steep sides and extinguish fires the Indians might ignite with their arrows. Loop-holes were made in the upper room, and in the floor where it projected beyond the lower room, to command the Indians both at a distance and close at hand. As a further protection, the block-house was surrounded by a strong fence, consisting of stout posts set firmly in the ground. The upper end of each post was sharpened to prevent scaling.

BOOKS AND PAPERS

A WORK¹ that has been translated from the original Greek into Latin, Ethiopic, Arabic, Armenian, Syriac, Anglo-Saxon, Icelandic, Spanish, Italian, Provençal, and all the principal dialects of the Germanic and Romanic languages, must be accepted as a very popular one, and it can only be such if it is of a universally utilitarian character and so caters to one class of human craving which is common to every one, or else appeals to the only other impulse that is common to mankind—the innate demand for instruction in matters supernatural, superstitious or religious.

It was to satisfy demands of the latter kind that the "*Physiologus*," or Naturalist, was in the early centuries of the Christian era so spread about the world.

Ostensibly in some sense a work of natural history, the "*Physiologus*" incorporated with its romantic and fabulistic teachings of the workings of Nature a vast amount of moral precept and theological dogma, which in some way the early Christian teachers managed to exemplify and enforce by making deductions from such observations on the facts of natural history as they could gather. "The '*Physiologus*,' therefore, may be regarded as a convenient compendium of current opinions and ancient traditions touching the characteristics of animals and plants, which served as a manual of instruction in zoölogy and botany, with moral reflections, so as to include also the province of ethics. In the hands of Christian teachers it was made wholly subordinate to hermeneutical and homiletical purposes, and became a mere treatise on theology, interspersed with pious exhortations." In due course of time it became the source and foundation for the several "*Bestiaries*," which enjoyed some vogue in the Middle Ages and later. It is out of the matter that is derived from the *Physiologus* and its successors that Mr. E. P. Evans has constructed a very learned book and a very amusing and somewhat instructive one, too—when one does not try to absorb too large a dose of it at a sitting.

Why this ancient and legendary work has had such vitality can only be accounted for by those who can explain why even the most single-mindedly religious men still have a sneaking delight in legend and superstition, when they are derived from or connected with

¹ "*Animal Symbolism in Ecclesiastical Architecture*." By E. P. Evans. With a bibliography and seventy-eight illustrations. New York: Henry Holt & Co. 1896.

religion. Perhaps there is another reason for its survival in so many languages, or, at least, there is an advantage to the modern architect and archaeologist in this survival, for, as our author says, "without such a guide it would be equally difficult for us at the present day to understand what the builder of a mediæval church or an embroiderer of a sacerdotal vestment meant by adorning them with seemingly incongruous representations of lions, eagles, phoenixes, pelicans, ravens, doves, partridges, panthers, foxes, hedgehogs, ferrets, ichneumons, lizards, serpents, tortoises, whales, elephants, ibises, crocodiles, unicorns, salamanders, and other real and mythical animals, or to conjecture what conceivable relation they could bear to Christian theology or Christian worship."

Each of the several creatures here mentioned, and more than these, is considered, and its attributes and bearing on matters religious is learnedly, but still interestingly, discussed. Just how much learning gets into the discussion may be inferred from this very characteristic extract: "The hygienic influence of the panther is prophylactic as well as remedial, so that, if one were disposed to carry the quibbling spirit of patristic theologians into the province of paranomasia, the beast might be called 'an ounce of prevention.' The breath of the panther is often likened to the virtue which went out of Christ and healed the woman who touched the hem of His garment." The last sentence is practically the Christian gloss on the heathen myth, which declares that after the panther has eaten and slept for three days "out of its mouth proceeds a sweet smell" whenever it roars, and by this sweet smell all animals are attracted, save the dragon, which typifies Satan — "the dragon, that old serpent, which is the devil." All through profane literature, as well as in the songs of troubadours and the poems of the Renaissance, allusions to the panther's breath can be found, and when it is stated that, according to an ancient tradition, the real father of Jesus was not Joseph, but a Roman soldier named Panthera, a link is found that easily connects the panther with Christian symbolism.

Being interested to see how far the classic association of death and the horse had been preserved in the symbolism of ecclesiastical myth, we have examined the book attentively, but find no notice taken of the pagan symbolism, and very little, indeed, about the horse; in fact, the animal is not thought worthy of a reference in the index. In place of the horse, however, his half-brother, the ass, is treated with great consideration, and his function in symbolism is found to be sufficiently varied, since sometimes he stands for humility — the assignation deriving from Buddhist precept and not from Christian — and at others may represent "Father Calvin preaching heresies to his deluded disciples." Neither of these attributions is other than commonplace, but it is surprising to find the ass distinctly related to architecture — in another way than through the vagaries of some modern practitioners. It seems that in the Middle Ages there was "a mysterious and far-reaching analogy between the anatomy of an ass and the architecture of a cathedral"! This analogy still has currency, for in the catechism which is used by the children in Angoumois (Charente) occurs this passage:

Priest. — What do the two ears of the ass signify?

Children. — The two ears of the ass signify the two great patron saints of our city.

Priest. — What does the head of the ass signify?

Children. — The head of the ass signifies the great bell, and the rein is the clapper of the great bell in the tower of the cathedral dedicated to the patron saints of our city.

Priest. — What does the throat of the ass signify?

Children. — The throat of the ass signifies the chief portal of the cathedral dedicated to the patron saints of our city.

Priest. — What does the body of the ass signify?

Children. — The body of the ass signifies the whole structure of the cathedral dedicated to the patron saints of our city.

And so on, and so on: the legs are the piers at the crossing, the tail is the aspergill for sprinkling holy water, the paunch is the poor-box, while the buttocks stand for "the beautiful stoup which holds holy water." The Feast of the Ass, which takes place at Christmas in honor of Christ's entry into Jerusalem, and also of the flight into Egypt, makes it necessary to keep on hand in sundry churches a wooden effigy of the animal for processional purposes. There is a tradition that the ass actually used by Christ passed, after the crucifixion, dry-shod, into Rhodes, Cyprus, Malta, and finally brought up at Verona, where after a long life it at length died, and its bones were deposited in the belly of the wooden ass in the Church of Santa Maria in Organo, where they now are. It is further fabled that all the asses of Verona are descended from this sacred sire.

Other animals, real and unreal, were treated zoologically in the original *Physiologus*, and Mr. Evans takes them all up and shows by what changes they passed into Christian symbolism. The lion, for instance, which guards the doorway of so many Italian churches and supports upon its back so many pulpits, typifies spiritual vigilance, because of the belief that the beast never closed its eyes. It likewise represents Satan subdued and subjected to the service of Christianity. The truth about ecclesiastical symbolism appears to be this: by the exercise of a little ingenuity on the part of the interpreter, a given symbol or species of symbols may mean anything; while by the exercise of more ingenuity they may be made to mean everything.



TIME.

TIME of Payment of Building Contract. — In the absence of evidence as to the terms of a building contract, the contract price is presumed to be payable on the completion of the work.

[*Smith vs. Sheltering Arms* (Supreme Ct. 2d Dept.), 35 N. Y. S. Rep. 62.]

Time the Essence of Contract. — In the absence of anything to show that time has been made an essence of a contract, the party sued cannot recover upon a counter-claim, in an action on the contract, for expenses and losses arising from the other party not completing his contract at the date at which he had said he would try and complete it.

[*Gubbins vs. Lautenschlager* (U. S. Cir. Ct.) 74 Federal Rep. 160.]

Where time is made the essence of a contract, and a forfeiture is provided in case of default, the acceptance of part of overdue payments on the contract is the waiver of the right to declare a forfeiture as to all defaults in payments then existing.

[*White vs. Atlas Lumber Co.* (Supreme Ct. Neb.), 66 N. W. Rep. 359.]

Waiver by Parol of Time of Performance of Contract. — Where one party to a contract, before the time for performance by the other has arrived, consents on his request to extend the time of performance, until he gives notice of withdrawal, he is prevented from considering the latter in default, though meanwhile the contract time has elapsed. The Court said: We know of no principle of law which will permit a party to a contract, who is entitled to demand the performance by the other party of some act within a specified time, and who has consented to the postponement of the performance to a time subsequent to that fixed by the contract, and where the other party has acted upon such consent, and in reliance thereon has permitted the contract time to pass without performance, to subsequently recall such consent, and treat the non-performance within the original time as a breach of the contract. The original contract is not changed by such waiver, but it stands as an answer to the other party who seeks to recover damages for non-performance induced by an unrecalled consent. The party may in the absence of a valid and binding agreement to extend the time revoke his consent, so far as it has not been acted upon; but it would be most inequitable to hold that a default, justified by consent, happening during its extension, should furnish a ground of action. It makes no difference what the character of the original contract may be, — whether one within or without the contract of frauds — written or unwritten.

[*Thomson vs. Poor* (Ct. App. N. Y.), 42 N. E. Rep. 13.]



SKETCH-CLUB OF NEW YORK.

THE Sketch-Club of New York held its usual monthly meeting Saturday evening, April 3d.

A most telling address was delivered by Mr. Kenyon Cox, artist; subject: "The Advisability of Architects Studying the Figure."

Mr. E. M. Piatti, sculptor, presented the Club with three plaster casts.

At the conclusion of business a cozy and instructive discussion took place with Mr. Cox, which those who left early could ill afford to miss.



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

SOUTHEASTERN VIEW OF THE LIBRARY OF CONGRESS, WASHINGTON, D. C. MESSRS. SMITHMEYER & PELZ; P. J. PELZ; E. P. CASEY, ARCHITECTS.

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

RENAISSANCE DOMES, NO. 1: CHAPEL IN THE COURT-YARD OF S. PIETRO IN MONTORIO, ROME, ITALY. DONATO BRAMANTE, ARCHITECT.

THIS little building is supposed to mark the spot where the Cross of St. Peter stood: the very spot itself can be inspected through a hole in the floor of the crypt. It was Bramante's intention to remodel the court-yard in which this "tempietto" stands, making the colonnade of the cloisters concentric with the chapel, but his design was not carried out.

RENAISSANCE DOMES, NO. 2: PLAN, SECTION AND ELEVATION OF THE ABOVE.

RENAISSANCE DOMES, NO. 3: CHURCH OF THE VAL DE GRACE, PARIS, FRANCE. ARCHITECT OF THE DOME, GABRIEL LEDUC.

THIS interesting church in the Latin Quarter was erected by Anne of Austria as a thank-offering for the birth of Louis XIV. The original architect was François Mansart whose work was interrupted by the troubles of the Fronde shortly after the walls reached the level of the ground. Charles Le Mercier carried the building up to the main cornice. The work then passed to Pierre Lemuet, then to Gabriel Leduc, and finally to Duval, whose given name seems to be unknown. Nevertheless the work, in spite of changes and delays, only took twenty years (1645-65) to finish. The original wooden frame of the dome was replaced with ironwork by M. Victor Baltard not very many years ago. The inner surface of the dome is decorated with a vast composition "la gloire des Bienheureux" by Pierre Mignard.

RENAISSANCE DOMES, NO. 4: PLAN, SECTION AND ELEVATION OF THE ABOVE.

ACCESSORIES OF LANDSCAPE ARCHITECTURE, NO. LI: ST. PETER'S, AS SEEN FROM THE VATICAN GARDEN.

ACCESSORIES OF LANDSCAPE ARCHITECTURE, NO. LII: LOGGIA IN FRONT OF THE CASINO DEL PAPA IN THE VATICAN GARDEN, ROME, ITALY. PIRRO LIGORIO, ARCHITECT.

ONE effect of the liberal-mindedness of the present Pope is that permission has been given to photograph portions of the Vatican and its gardens and so reveal to the public the long-forgotten works of many artists of merit and renown. This summer retreat was built for Pius IV in 1560 and the group is commonly known as the Villa Pia. The loggia is about 40' x 23', and, as the garden falls away below it on the other side, the rear face shows a basement adorned with fountains and statues and embraced by a double flight of steps which ascend to the level of the court shown in the view: this court measures some 65' x 85'.

[The following named illustrations may be found by reference to our advertising pages.]

DOORWAY OF THE CATHEDRAL, COMO, ITALY.

SKETCHES IN THE LATIN QUARTER, PARIS, FRANCE.

[Additional Illustrations in the International Edition.]

DETAIL OF MAIN STAIRCASE: LIBRARY OF CONGRESS, WASHINGTON, D. C. ARCHITECTS, MESSRS. SMITHMEYER & PELZ; P. J. PELZ; E. F. CASEY.

[Gelatine Print.]

SOUTHEAST PAVILION: LIBRARY OF CONGRESS, WASHINGTON, D. C.

[Gelatine Print.]

THIS room is known as the Pavilion of the Elements, because of the decorations executed by Mr. R. L. Dodge. The lunette that is shown in the view typifies Fire.

SOUTH AISLE, LOOKING WEST: WINCHESTER CATHEDRAL, ENG.

BUSINESS PREMISES, HESSLE ROAD, HULL, ENG. MESSRS. GELDER & KITCHEN, ARCHITECTS.

BUSINESS PREMISES, HOLDERNESS ROAD, HULL, ENG. MESSRS. GELDER & KITCHEN, ARCHITECTS.



THE ANDRÉE BALLOON.—M. Andrée, the Swedish engineer, has been busy during the autumn and winter completing his arrangements for his Arctic balloon exploits during the early part of the forthcoming summer. The balloon has been increased by some 300 cubic metres, whereby its carrying capacity has been augmented by about 400 pounds. This enlargement has also entailed an increase in the requisite quantity of materials for gas-making. The various ropes and appliances have been tested, and been found quite satisfactory.—*Invention.*

NATURAL GAS A CRUDE MINERAL.—A mandate of the United States Circuit Court of Appeals in the case of the United States vs. The Buffalo Natural Gas and Fuel Company has been filed, affirming the decision of Judge Coxe. The effect of this is to declare natural gas a crude mineral and exempt from duty under Paragraph 651 of the Tariff Act of 1890. The Buffalo Natural Gas and Fuel Company pipes gas from Canada under the Niagara River.

A TEST FOR "DAMP AND UNHEALTHY" ROOMS.—In view of the fact that there are frequent disputes between landlords and tenants as to the question of dampness in a building, the *Hygienic Gazette* suggests a very simple test. In the room in question a kilogram of fresh lime should be placed, after hermetically closing doors and windows. In twenty-four hours it should be weighed, and if it has absorbed more than 1 per cent. of water, the room should be considered damp and classed as unhealthy.

THE PARIS SALON.—This year's Paris Salon will be the 124th. Under Louis XIV ten exhibitions were held, under Louis XV twenty-six, under Louis XVI nine, under the first republic nine, under Napoleon I five, during the Restoration six, under Louis Philippe sixteen, during the second Republic four, under Napoleon III nineteen, and since 1872 there has been one every year. In the Salon of 1800 only 275 works were exhibited, whereas of late years the average has been 5,000.—*Boston Transcript.*

WORKMEN AS CONTRACTORS.—A system of public work that has much to commend it is that of "Coöperative Contract" in vogue in New Zealand. Under that system a public work is divided into small sections by the engineer in charge, and an estimate is made of its cost. Each section is then let out to a group of workmen, who do the work under a foreman of their own choosing, but who receives no more than his fellows. They obtain the full profit which would otherwise go to professional contractors, and they share the payment equally. Each worker is interested in seeing that his companions do their full amount of work, and the sooner the job is performed the greater the return for a day's work. If any tools are needed which the men do not own, the Government supplies them at a moderate rental. The adoption of this system should provide a method whereby direct employment by the Government would be consistent with a full return for the money expended, giving to the community an advantage in the economical execution of public enterprises equal to that enjoyed by private employers.—*Review of Reviews.*

THE LATERAL SPREAD OF HEAT AT A FIRE.—In the report of Inspector McDevitt on the recent large fire in Philadelphia, he says that "some idea could be formed at this fire of the possibility of, and danger from, a lateral spread of heat, which in this case extended to points nearly 200 feet away. This is more likely to occur in a wide, than in a narrow street, as with the latter the inward current is so swift that the heat is carried rapidly upwards. In noting the damage done to the city-hall, it may be well to state that there are, perhaps, very few who have considered the danger to which the Public Buildings are exposed from their surroundings. On several sides of the structure there are points where it is possible for a fire to assume such headway and magnitude as that experienced in the recent fire, and from which the heat given off might leave the exposed side of the hall a crumbling mass of marble. A slight illustration of this possible result was seen during this fire by the destruction of the glass in the windows of the hall from heat generated 200 feet away, although the wind was blowing in the opposite direction. It would, therefore, seem as if some precautionary measures ought to be taken by the authorities to meet this possible danger, which at certain points is capable of doing even greater damage than that just experienced."—*Fire and Water.*

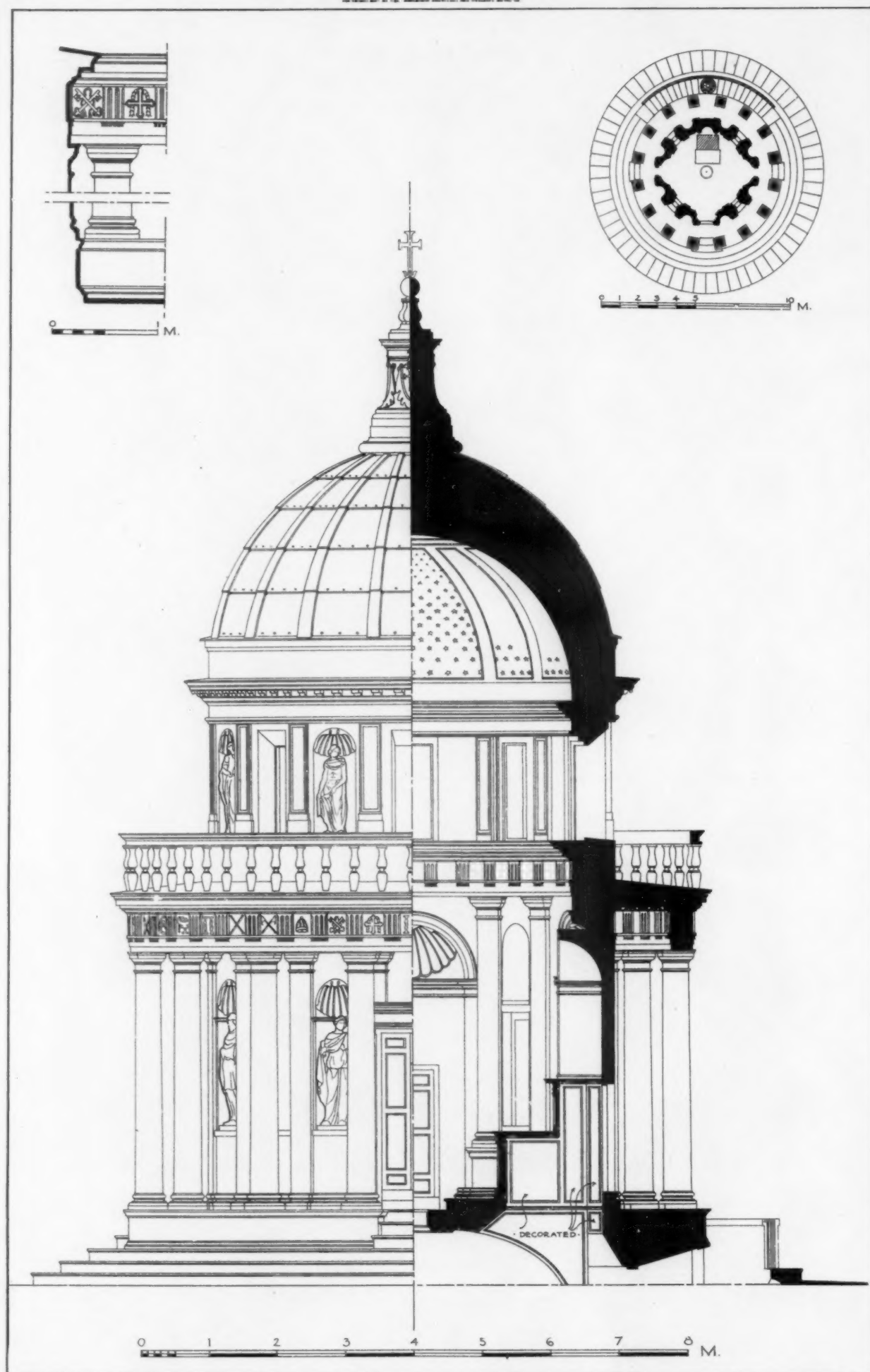
AN EXTRAORDINARY HINDOO FORT.—Eight miles from Aurungabad stands one of the most curious survivals of mediæval India, a formerly impregnable fortress, which crowns the now deserted town of Daulatabad. The latter is one of the half-dozen deserted cities of India, but at present it is a mere jungle surrounded by the old wall. The fort itself, however, originally a Hindu invention, is perfectly preserved, only one gate being in ruins, and gives a very clear idea of the means of defence employed before the invention of gunpowder. It dates from the thirteenth century, and the chief strength of the citadel lies in the fact that to get to it a foe must not only storm two dozen well-made and strongly defended gateways, but in doing so he must force a passage up a pitch-dark tunnel hewn steeply in the solid rock; and when he has thus painfully fought his way to a height 200 feet above the moat, where he first entered the rock, he runs against a trap-door of iron, 16 feet square and covering the whole mouth of the tunnel. The turns and twists in the tunnel itself preclude the possibility of the enemy bringing in battering-rams; but this is not all, for the stone chamber above this iron door is a huge oven, and if the enemy ever got so far he would find the trap-door converted into a red-hot iron barrier, through which he could not force his way; but if he did, it would only be to enter into a fiery furnace. The hill itself, in and on which the fort is built, is a most extraordinary natural phenomenon. It is quite circular, rising directly from the plain, with perpendicular sides from 100 to 200 feet high. Above this scarp the hilltop converges almost to a point, and then suddenly rises in a little dome 500 feet above the moat. This dome alone would prove an obstacle difficult to surmount, as its sides are slippery rock. The tunnel stops with the top of the perpendicular scarp, and, though there is little need of further defence, the strong walls and gates continue to the very dome on the summit. The place is well worth a visit, as it is the best-preserved fortress of its time in India. The Mohammedans generally destroyed the forts both of the Hindus and of their own countrymen, but this they wisely preserved and strengthened with guns. Even gunpowder was useless against Daulatabad in the old days, for the upper fort-platforms are so made that no gun from the plain below could sweep them. C. W. Hopkins in the Nation.



RENAISSANCE DOMES, NO. 1:—CHAPEL IN THE COURT-YARD OF SAN PIETRO IN MONTORIO,
ROME, ITALY.

DONATO BRAMANTE, ARCHITECT.

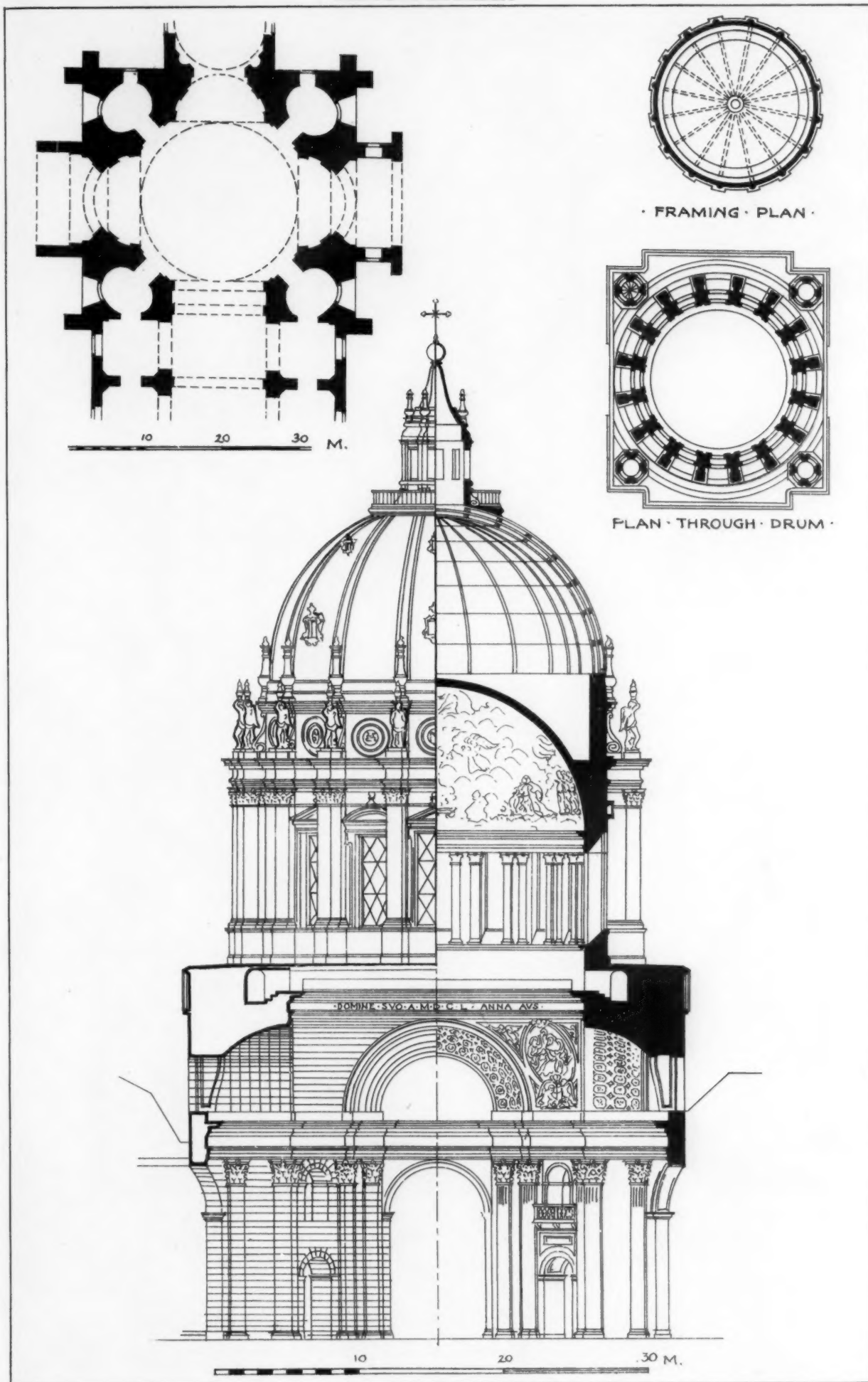
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RENAISSANCE DOMES, No. 2: CHAPEL IN THE COURT-YARD OF SAN PIETRO IN MONTORIO, ROME.

DONATO BRAMANTE, Architect.

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RENAISSANCE DOMES, No. 4: CHURCH OF THE VAL DE GRACE, PARIS, FRANCE.

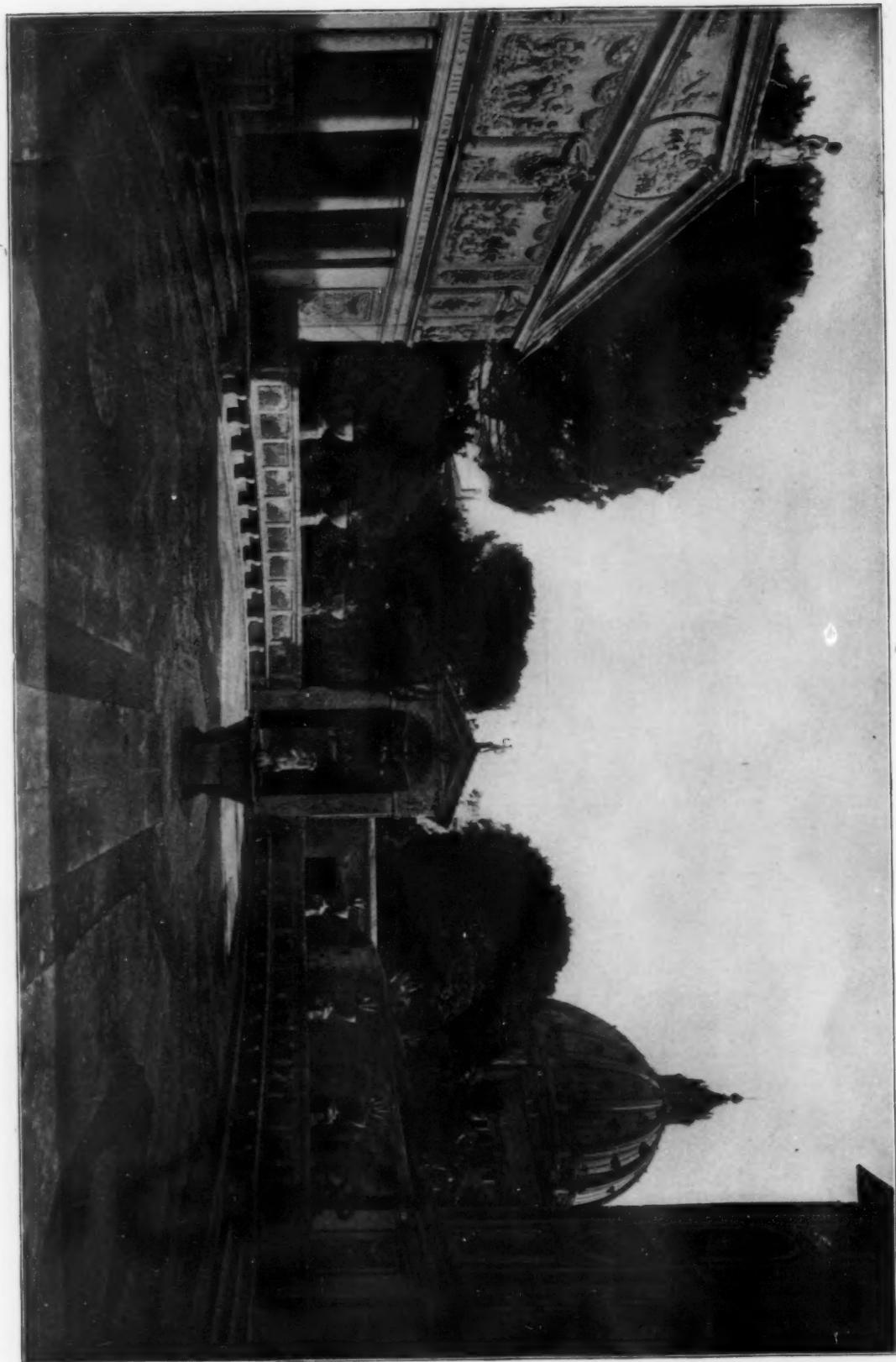
GABRIEL LE DUC, Architect of the Dome.



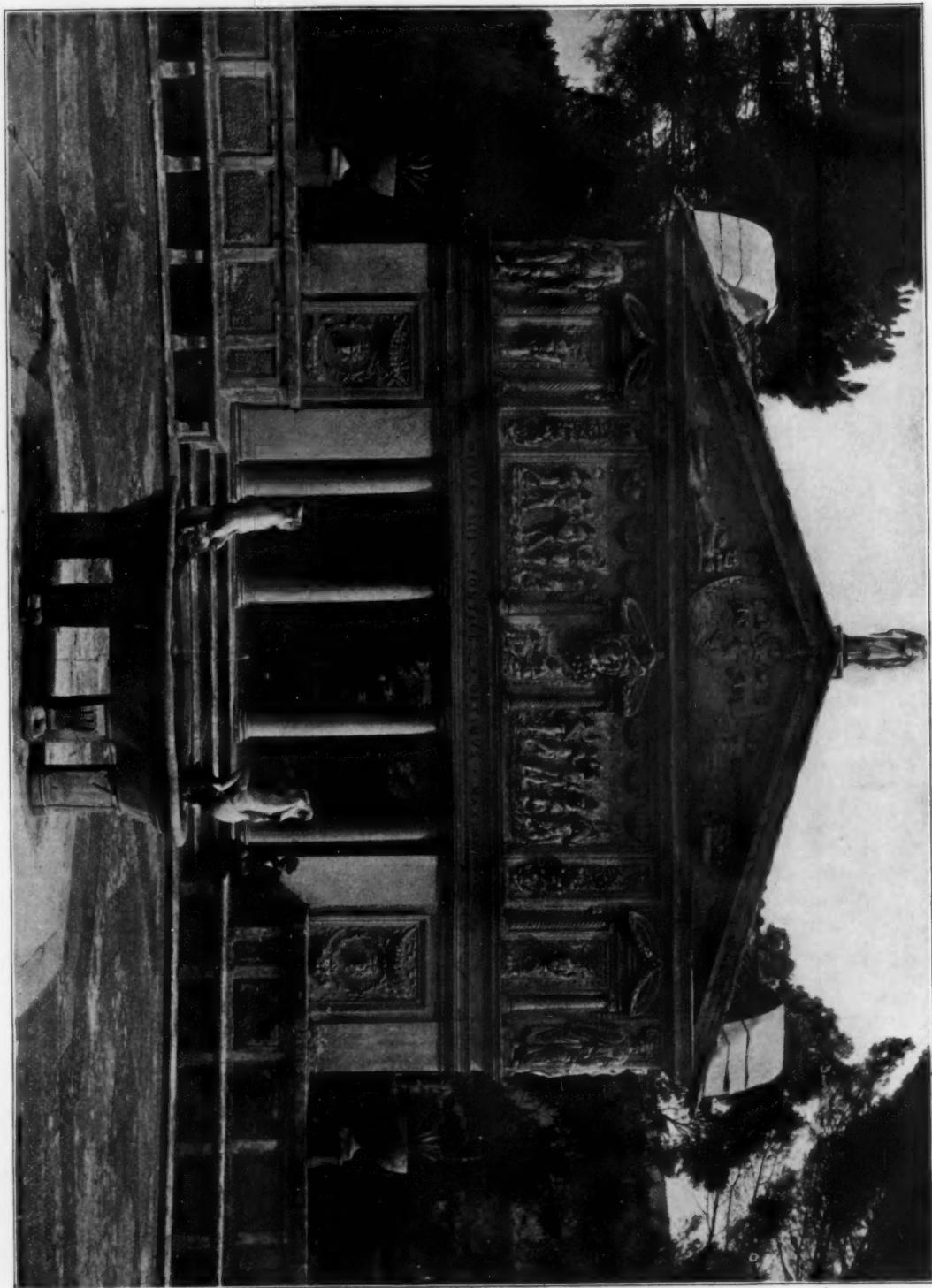


RENAISSANCE DOMES, No. 3:—CHURCH OF THE VAL DE GRACE, PARIS, FRANCE.

ARCHITECT OF THE DOME, GABRIEL LE DUC.



ACCESSORIES OF LANDSCAPE ARCHITECTURE, NO. L:—ST. PETER'S, AS SEEN FROM THE VATICAN GARDEN.



ACCESSORIES OF LANDSCAPE ARCHITECTURE, NO. LI:—LOGGIA IN FRONT OF THE CASINO DEL PAPA, VATICAN GARDEN, ROME.
PIRRO LIGORIO, ARCHITECT.