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## CONTENTS.

EDITORIAL SUMMARY.  
LIBRARIES.—II.  
ANCIENT ARCHITECTURE FOR STUDENTS.—XIV.  
GERMAN CASTLES.—I.  
SOFT AND HARD WOOD FLOORS.  
SOCIETIES.  
COMMUNICATIONS.  
NOTES AND CLIPPINGS.  
TRADE SURVEYS.

### ILLUSTRATIONS.

DOORWAY TO THE HOUSE OF JACOB C. ROGERS, ESQ., 231 COMMONWEALTH AVE., BOSTON, MASS.  
[Gelatine Print issued with the International and Imperial Editions only.]  
HOUSES ON WEST END AVE., AND WEST 76TH ST., NEW YORK, N. Y.  
DINING-ROOM AND HALL IN ONE OF THE SAME.

HOUSE AT PORTLAND HEIGHTS, PORTLAND, OREGON.  
LIVING-ROOM IN THE SAME.  
SCHLOSS ELTZ ON THE ELTZ, GERMANY.  
THE ALBRECHTSBURG, MEISSEN, GERMANY.

### Additional Illustrations in the International Edition.

DOORWAY OF THE THIELE-WINKLER PALACE, BERLIN, PRUSSIA.

[Gelatine Print.]

TOMB AT MARSEILLES, FRANCE.

[Photogravure.]

COTTAGE AT ST. ANDRAU, FRANCE.

[Photogravure.]

NORTH PORCH, CHARTRES CATHEDRAL, FRANCE.

MEMORIAL CHURCH AT COLSTON BASSETT, NOTTS, ENG.

DESIGN FOR A TECHNICAL COLLEGE.



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will be held during the month of November. Intending competitors should file their applications with the editors without delay.

# THE AMERICAN ARCHITECT AND BUILDING NEWS.

VOL. XXXIV.

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OCTOBER 17, 1891.



## SUMMARY:—

|                                                                                                                                                                                                                                                                                                                                                                                       |    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| The City Architect's Office in Boston.—The Woes of an Archæologist.—An Agreement in regard to Brick-mason's Apprentices.—Fashionable Jewelry in England.—How to improve Jewellers' Designs.—The Growth of Population in European Cities.—An Improved Mucilage. . . . .                                                                                                                | 33 |
| LIBRARIES.—II. . . . .                                                                                                                                                                                                                                                                                                                                                                | 35 |
| ANCIENT ARCHITECTURE FOR STUDENTS.—XIV. . . . .                                                                                                                                                                                                                                                                                                                                       | 37 |
| GERMAN CASTLES.—I. . . . .                                                                                                                                                                                                                                                                                                                                                            | 40 |
| SOFT AND HARD WOOD FLOORS. . . . .                                                                                                                                                                                                                                                                                                                                                    | 42 |
| SOCIETIES. . . . .                                                                                                                                                                                                                                                                                                                                                                    | 43 |
| ILLUSTRATIONS:—                                                                                                                                                                                                                                                                                                                                                                       |    |
| Doorway to House of Jacob C. Rogers, Esq., 231 Commonwealth Ave., Boston, Mass.—Houses on West End Ave. and West 76th St., New York, N. Y.—Dining-room and Hall in House, Corner West End Ave. and West 76th St., New York, N. Y.—House at Portland Heights, Portland, Oregon.—Living-room in the Same House.—Schloss Eitz on the Eitz, Germany.—The Albrechtsburg, Meissen, Germany. |    |
| Additional: Tomb at Marseilles, France.—Cottage at St. Andrau, France.—Doorway of the Thiele-Winkler Palace, Berlin, Prussia.—North Porch, Chartres Cathedral, France.—Memorial Church at Colston Bassett, Notts, Eng.—Design for a Technical College. . . . .                                                                                                                        | 43 |
| COMMUNICATIONS:—                                                                                                                                                                                                                                                                                                                                                                      |    |
| A Dishonest Partner.—To Remove Grease from Sinks. . . . .                                                                                                                                                                                                                                                                                                                             | 43 |
| NOTES AND CLIPPINGS. . . . .                                                                                                                                                                                                                                                                                                                                                          | 43 |
| TRADE SURVEYS. . . . .                                                                                                                                                                                                                                                                                                                                                                | 44 |

WITHIN the last year, an investigation has been made into the recent management of the City Architect's office in Boston, with some curious results. Until very recently, as the figures show, the cost of designing and superintending the city work by salaried officials has been, as a rule, more than ten per cent on the cost of the buildings constructed, or more than twice as much as would have been charged by private architects for the same service; and, if common report is to be credited, the buildings erected have cost far more than is paid by other cities for buildings nearly or quite similar. It is easy to compare the cost of school-houses, which are the structures absorbing most of the City Architect's attention, with those in other places, and it is said that a Boston school-house has cost nearly twice as much, per scholar, as those of Chicago. Where the surplus money goes to, no one pretends to say; but the net result of the system appears to be that Boston has been contented to pay its architectural department ten dollars, for every hundred dollars that it expended in getting fifty dollars' worth of result, while any respectable private architect would have got the same result at a charge of two dollars and a half, besides handing back fifty dollars out of every hundred appropriated. The office, which is temporarily in charge of an accomplished and experienced architect, who has no political connections, is said to be now carried on so economically that the expense of planning and supervision of the recent buildings has been only three per cent on the cost of the buildings; but with a change of incumbent the old abuses might again appear, and the safest and best way would undoubtedly be to abolish the office altogether, and have the city architectural work done in Boston as it is elsewhere, by private architects, selected, as far as possible, without regard to personal or political considerations. It is obvious that an architect who has to ask every contractor or workman whom he sees whether he is going to vote for his man or not, or who holds his place on condition of delivering a certain number of votes to the person from whom he holds his appointment, can be no longer the strict and vigilant guardian that a city needs to look after its interests in building matters. An architect rarely does his duty to his employer without wounding the sensibilities of the contractors and workmen with whom he has to deal, and one placed in office for the purpose of making things pleasant all around for a large circle of mechanics has opportunities for doing so only limited by the amount of money which can be secured by appropriation for doing a given quantity of work.

AN over-enthusiastic archæologist has come to grief in California. The young Baron Nordenskjöld, a son of the great Swedish explorer, recently came to this country to study the remains of the prehistoric races of America. Among other things, he visited some of the cliff dwellings, and, apparently innocently, gathered some of the objects to be found there, and sent them to New York to be shipped to Sweden. Unfortunately for him, the cliff dwellings are in the Ute Reservation, and they, with their contents, are, therefore, the property of the United States Government, which, while it does not take any very great interest in them, resents emphatically any attempt on the part of other people to appropriate any part of them; and the young Baron, who is only twenty-three years old, was arrested and jailed. After a preliminary hearing before a justice, he was released, on giving bonds for his appearance before the United States Court, on a charge, as we are told, of violating his passport privileges, although it is not very evident how the holder of a passport is restrained by it from acquiring such bric-à-brac as suits his fancy if he is willing to pay for it. Meanwhile, the consignment of relics has been stopped *in transitu*, and will be held in New York until the unfortunate explorer's case is decided.

AN important agreement is said to have been made in Boston between the Bricklayers' Union and the Mason-Builders' Association. Like nearly all other labor associations, the Bricklayers' Union objects to apprentices, and has long endeavored to have a limit set to the number which each master-mason could take. The masters, on the other hand, have maintained that no body of men had the right to prevent boys from learning a trade, and have steadily refused to limit the number of apprentices to be taken. While the position of the masters in this respect is unquestionably right, the journeymen have complained, apparently with justice, that the masters have set incompetent apprentices, at low wages, to do work which should be done by experienced men at wages suitable for such men; and that not only the trade, but the public, has suffered in consequence. It seems quite likely that this complaint is well founded, and, after several conferences, the masters and men have agreed upon a compromise which does credit to both. Under the new arrangement, each master is authorized to employ as many apprentices as he likes; but every indentured apprentice must serve at least three years, and, if he is under eighteen when indentured, must serve until he is twenty-one. Each master is bound to give all his apprentices constant employment during their term of indenture, and to afford them opportunity for learning all the branches of the trade, and must pay them wages at the fixed rate of one dollar a day for the first year, with fifty dollars at the end of the year for clothes; a dollar and a quarter a day for the second year, with seventy-five dollars for clothes; and a dollar and a half a day for the third year, with seventy-five dollars for clothes. The journeymen believe, with reason, that these provisions will tend to restrict the number of apprentices, and improve their quality. One of the worst abuses of the apprentice system has been the facility with which contractors could hire worthless men, under the name of apprentices, set them, at low wages, to do the work of skilled mechanics, and discharge them a few days later. Now, as the real apprentices must be employed for a definite term of three years, and will be well known in the trade, it will be impossible to palm off tramps for them; and the masters, knowing that they cannot discharge any apprentice before his term expires, will be careful to receive only such a number of the most promising boys as they are sure of being able to keep employed; while the boys, who have hitherto been the subject of endless disputes between masters and men, without much benefit to themselves, will profit most of all by the revival of a system which, when properly carried out, secures to apprentices thorough instruction and an assured living afterwards.

THE *Builder* for September 26 contains an excellent article on modern jewelry, commenting, as may well be supposed, very severely on the sort of design now prevalent. As the fashions in such matters here follow closely those of England, some of the reflections of the writer will be appreciated in this country. "Apparently," he says, "modern personal ornaments are not designed for beauty or for real adornment at all; they are designed for the sake of wearing

something which is made of a costly material, in order to show that the wearer can afford it." We cannot say that we quite agree with him here. Probably nine-tenths of the jewelry worn is made of brass thinly gilded, and "jewelled," if at all, with glass, but the taste displayed in the inexpensive objects is no better than that which rules the fashioning of solid gold. To continue with the editor of the *Builder*: personal ornaments "are nearly all imitative of something, in many cases of the most common and unmeaning objects; where they are not imitative they usually consist of mere lumps of gold representing so much bullion value, with a precious stone inserted, not with any regard to design, but merely to enhance the pecuniary value of the articles." "Although," he says "imitative design in this kind of work, even of flowers, is bad, yet in the modern jeweller's advertisements, imitative flowers and sprays are really among the least objectionable things we can find. They show no thought, no design, it is true, but some of them have at least the quite exceptional merit that their forms are not ugly in themselves." In England, however, as here, the "sprays" and other inoffensive objects are by no means so popular as the positively ugly, vulgar, or, as the editor of the *Builder* says, "contemptible" ones. For example, a very fashionable *motif* just now is "derived from combinations in which an imitation of a "merrythought," or, as we should call it, a "wish-bone," holds a prominent part. A favorite variety consists of a wish-bone, in gold, with a *soi diant* chicken, either in gold or pearls, according to taste, perched upon it, the whole, to complete the delightful conceit, being enclosed for sale in "an egg case." Another form represents a nursery safety-pin with a wish-bone astride of it, and a third has the wish-bone again, with a "sprig of holly," with "real coral berries," laid upon it. One of the bar-pins, or "lace-pins," as we suppose we should call them, advertised by a London house, exhibits a jeweller's chicken standing on two sticks, and contemplating a broken egg-shell, which clings in some mysterious manner to the sticks before him. Another uncomfortable-looking object of the same kind is known as the "bar of music brooch," and consists of five longitudinal wires, with some quarter-notes stuck on them, apparently at random, and an ungainly treble clef. Every few months, when a new game, or something of the kind, becomes rapidly popular, a flood of horrors, clumsily suggesting the popular subject, is poured out by the jewellers, and eagerly absorbed by the public. Just now the "Game of Golf" is undergoing revival in England, and the jewellers vie with each other in producing "new golf jewelry," consisting of gold hockeys combined at various angles, with pearl or gold balls balanced on them. We need not add to our quotations from the long list of silly, ugly and vulgar things which fill the jeweller's cases. Any one can supply from his own observation an ample number of examples, and architects and artists have long ago become tired of wondering why it should never have occurred to any jeweller to have something made which should be pretty to look at.

**T**HE *Builder* thinks that the reason is to be found in the ignorance of art and design prevalent among the dealers. "They know the difference between pure and impure gold," but "know and care for nothing more." So far as American jewellers are concerned, this description certainly does not apply, our great dealers being mostly men of very cultivated taste, notwithstanding the character of the objects which they purvey for their customers, and the true explanation must probably be sought in the vulgarity and folly of their customers. The *Builder* remarks, mournfully, that "artistic taste seems to be, to a certain extent, worse in proportion to the possession of wealth"; and "the people who can afford much jewelry are those who have the worst taste"; and it might well have gone much further, and have said that of all the people in the world, those who set the fashions in Europe are the most brutally devoid of all conception of beauty, delicacy and refinement in regard to any subject. Those who follow them, in Europe and in this country, are nearly as bad, but it is possible, occasionally, to hear from one of the humbler followers in the wake of the procession of the "mode" a word of regret at the outrageous ugliness of the fashion to which he, or more particularly she, is preparing to conform. The *Builder* thinks that the way to reform jewelry is to get artists to design it, and there will always be people who like to see and wear pretty things, but such people are hopelessly out of the "swim," and their influence, at best, could go no further than to originate, perhaps, a six-months' "fad," which would be succeeded

by an avalanche of monstrous "novelties." We have no wish to make invidious distinctions between the male and the female followers of the mode, but, taking the sex which buys the most jewelry, it is impossible to believe that the wearers of "bustles," "shoulder-capes," and scarlet hats could ever be able to distinguish between a beautiful piece of jewelry and an ugly one, further than to prefer the ugly one. Every few years, some one like Ruskin, Eastlake, or Morris, raises his voice in lamentation over the prevailing love of the hideous, and, if he is vigorous enough in his language, and points out clearly how to get or make more beautiful things, he becomes the hero of the hour. "Eastlake furniture," "Morris" carpets and draperies, "aesthetic" clothes, and so on, are advertised and sold everywhere, and people of educated perceptions imagine that there is really going to be an artistic reform in the modern world. A year later, Morris, Eastlake and all his tribe are forgotten; Louis Quinze reigns in the upholsterers' shops, the bustle begins to protrude from the female rear, and every sort of beautiful draping, harmonious color and artistic design is "out of style," "old fashioned" and "gone by." Most architects, and possibly a few ladies, will remember the lovely "antique lace" which was so much used for curtains and borders ten years ago. It has always seemed to us that this was by far the most beautiful fabric for its purposes ever invented. Nothing produced since, at least, has ever approached it for simplicity and richness; yet it is doubtful whether ten yards of it of any pattern could be bought in any store in New York, and he would be a bold architect who would now venture to suggest to a female client the use of a material so completely "out of style," when India silks, with large patterns stamped in red on a yellow ground are not much dearer, and so much more fashionable. In the same way with jewelry; if Benvenuto Cellini, with a staff of Etruscan workmen and Greek die-sinkers, were to open a factory in London, their productions would sell well for about a year to people in "society," and for a year longer to people not so fortunate. The next season the Greek and Etruscan jewelry would be sent to the melting-pot, and turned out again in the form of gold cockroaches, with ruby eyes, for the ladies, and little shaved poodles, with automatically wagging tails, to be worn as scarf-pins by the gentlemen.

**T**HERE seems to be something unpatriotic in pointing out that the growth of population in foreign countries may be as great as in our own; but it is generally best in the end to accept the truth, without regard to consequences. To say nothing of some of the smaller German cities, which have gained in population with a rapidity which would surprise a Westerner, Berlin has grown, within the last sixty years, far more rapidly than New York. The population of the latter city, in 1830, was 202,589, and in 1890 was about 1,400,000; while Berlin, in 1830, had only 147,000 inhabitants, which had increased in 1890 to 1,574,485; the rate of growth during this long period being thus about one-half more rapid in Berlin than in New York. Within the last thirty years, the difference is still greater, Berlin, from 528,000 inhabitants in 1861, having almost exactly trebled its population in twenty-nine years, while New York had 814,287 inhabitants in 1860, and in thirty years has added less than eighty per cent. London, by the census of 1891, has approximately 4,500,000 inhabitants; Paris has 2,450,000, and Vienna 809,400. St. Petersburg is more populous than Vienna, having very nearly a million inhabitants, and Naples is not very far behind.

**T**HE manufacture of mucilage is quite an important industry in most architects' offices, the commercial mucilage being worthless for stretching paper. The usual way, according to our experience, is simply to put gum arabic in water, in a large bottle, and let it slowly dissolve to saturation, pouring out in small quantities, as required, and filling up with fresh water, sometimes adding a little oil of cloves to prevent moulding. According to the *Journal für Buchdruckerei*, the ordinary gum arabic mucilage can be improved by the addition of wheat starch and sugar, in the proportion of sixty parts pure gum arabic, forty-five parts fine wheat starch, and fifteen parts white sugar. The gum is first dissolved in water, and the starch and sugar then added to the solution, which is to be placed in a tin pail, or similar receptacle, and the pail kept immersed in boiling water until the starch is dissolved, and the whole mixture becomes clear. A few drops of tincture of camphor, or oil of cloves, will prevent moulding. This mucilage will glue wood or parchment, as well as paper.

LIBRARIES.<sup>1</sup>—II.

MEDIEVAL AND MODERN TIMES.

**D**URING their protracted invasions the barbarians had destroyed a great part of the literary treasures of antiquity. The first libraries that were re-formed contained only a very few books. Cassiodorus, the favorite minister of Theodoric, king of the Goths, founded one in the monastery in Calabria to which he retired. Pope Hilarus I founded two at Rome, one being in the cloisters of St. John Lateran.

A library existed at Padua in 752. In 1028 Perugia possessed a collection of books on civil and canonical jurisprudence. About 1048, Guidon, abbot of Pomposia, near Ravenna, owned a small library; there was also a collection in the abbey of Monte Cassino. We will note likewise, by way of memorandum, the library of Santa Maria sopra Minerva, that of the Collegio Romano, the Boeciana, Barberina, and Colonna collections, those of Santa Maria in Ara Coeli, of the Jesuits, of the Oratorians, of the Augustinians, of the Chiesa Nuova, of San Isidoro, those of Cardinals Barberini, Montalte, Corsini alla Langara and Pamphili and of Prince Borghese, at Rome. In other Italian cities; the library of Siena (Figure 1), the read-

ing-room of which is magnificently decorated, the libraries of limited public. Amsterdam, Utrecht, Stockholm and Upsala possess old libraries. At the beginning of the eleventh century, the caputular libraries of Novara and Vercelli, the library of Saint Mark's at Venice; Saint Just, Saint Anthony and Saint John Lateran, at Padua; the Ambrosian library founded by Frederick Borromeo, at Milan; the Libreria Mediceo Laurenziana founded by Clement VII in the church of San Lorenzo at Florence, and constructed by Michael Angelo.

But the library of the Vatican is the most famous, on account of its antiquity. Founded by Hilarus I, in the fifth century, it was successively added to by the different popes; almost entirely destroyed in 1527, when Rome was sacked by the army of Charles V, it was restored by Sixtus V and considerably augmented by Leo X. It occupies a suite of apartments in one of the wings of the Vatican. The books are kept in closed cases; notwithstanding the richness of the galleries and especially of the great hall by which they are reached, we have not thought fit to give any illustrations of the library, for it is not adapted to modern requirements.

The old library of Leyden, which is reproduced in Figure 2 after an antique engraving, deserves, on the contrary, particular notice on account of the convenient disposition of the books and desks, a disposition which might be adopted for special libraries thrown open to a



Fig. 1. Interior View of the Library at Siena.

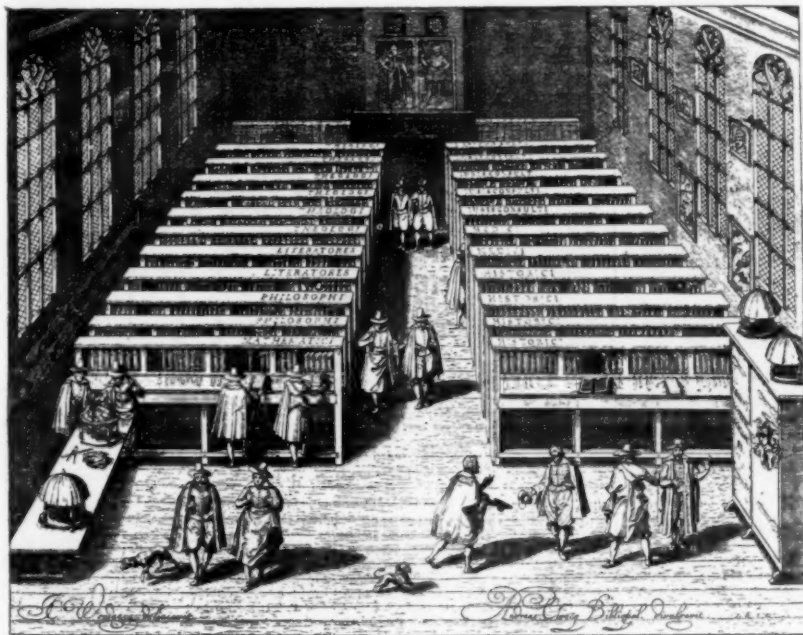


Fig. 2. Library of Leyden, after an Engraving in the Cabinet des Estampes.

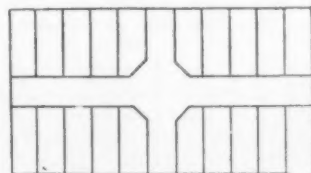


Fig. 3. Scheme of Old Library at Munich.

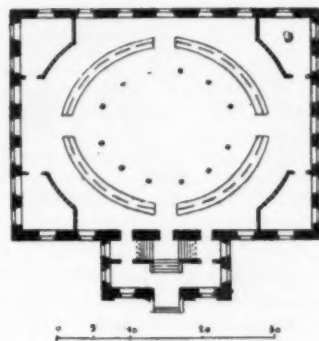


Fig. 4. Plan of the Old Library at Wolfenbüttel.

Bologna, Ferrara, Pisa, Cesena, and Palermo; the Frascati library, founded by the Duke of York in the eighteenth cen-

ture a collection existed in the abbey of Gembloux, in Belgium; the royal library of Belgium includes the celebrated collection of the dukes of Burgundy.

At Saint Petersburg there is the library of the Academy, which was considerably enlarged by Catherine II,

<sup>1</sup> From the French of Emile Camus, in Planat's *Encyclopédie de l'Architecture et de la Construction*. Continued from No. 824, page 20.

The library of the king at Lisbon was founded in the fifteenth century by Alphonso V. At Madrid the royal library founded in 1712 by Philip V, the library of San Isidoro and that of San Fernando are important collections. The magnificent library of the Escorial dates back to the time of Charles V; Philip II incorporated in it the libraries of Fez and Morocco: it was

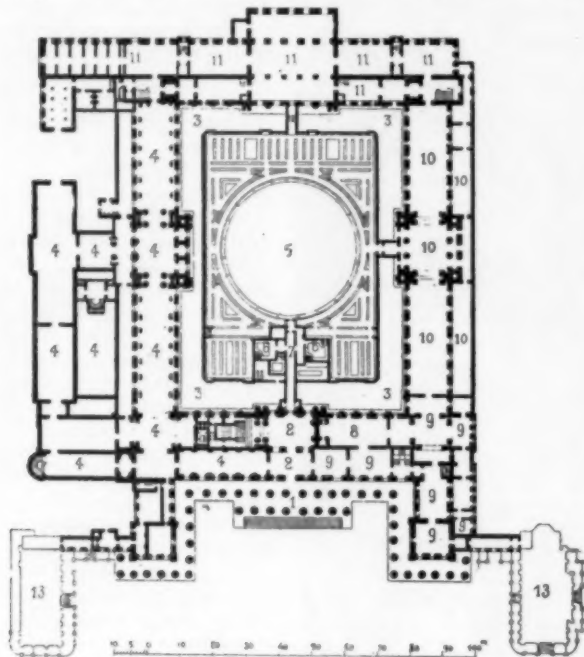


Fig. 5. Plan of the British Museum.

- |                          |                              |                    |
|--------------------------|------------------------------|--------------------|
| 1. Peristyle.            | 6. Lavatories.               | 11. North Library. |
| 2. Entrance and Gallery. | 7. Entrance to Reading-room. | 12. Gallery.       |
| 3. Court.                | 8. Grenville Library.        | 13. Lodgings.      |
| 4. Sculptures.           | 9. Manuscripts.              |                    |
| 5. New Library.          | 10. Royal Library.           |                    |

originally established in the monastery of San Lorenzo, and was partially destroyed by lightning in 1671.

In England and Germany the following collections merit a passing notice here. The library of York was founded by archbishop Egbert, and fell a prey to the flames in the reign of Stephen. At a later date the collection in the monastery of Saint Albans perished in the same way. In 1602 Sir Thomas Bodley opened the library at Oxford which still bears his name.<sup>1</sup> The libraries of Munich (Figure 3), of Vienna,

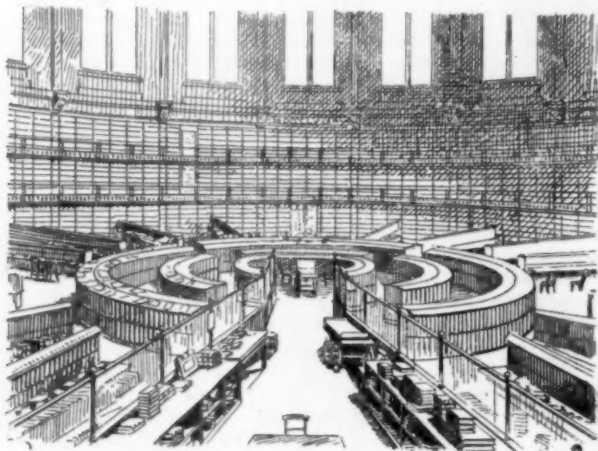


Fig. 6. Interior View of the Library of the British Museum.

founded in 1430 by Maximilian, of Göttingen, Dresden and Stuttgart, of Berlin, founded by Frederick William, of Heidelberg, Leipzig, Frankfurt and Hamburg are the most important German collections.

Sidonius Apollinaris, a writer in the fifth century, cites several libraries in Gaul, namely, those of Loup, a professor at Périgueux, of the consul Magnus at Narbonne, of Rurice,

<sup>1</sup> A description of the Bodleian Library may be found in the report addressed to the minister of public instruction by M. Pascal, *sur les bibliothèques et les facultés de médecine en Angleterre*, Paris, Ducher, 1884. See also Count de Labade, Paris, 1845.

bishop of Limoges, and the collection which Tonance Ferréol made in his house at Prusiane in Auvergne. Charlemagne founded the libraries of Ile-Barbe, near Lyons, and of Aix-la-chapelle and Saint Gall. He ordered that the collection which he had made in his palace should be sold at his death for the benefit of the poor.

From the time of Charlemagne on, all monasteries and cathedral churches had their schools and libraries. The word

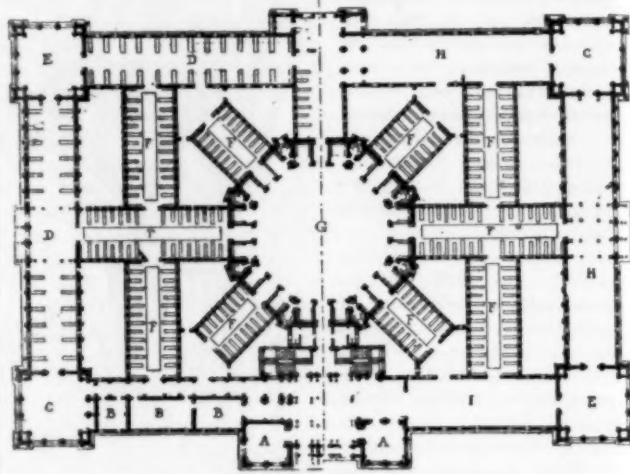


Fig. 7. Plan of the Congressional Library at Washington.

- |                          |                                             |                       |
|--------------------------|---------------------------------------------|-----------------------|
| A. Offices.              | D. Storage Rooms.                           | G. Main Reading-room. |
| B. Administration.       | E. Reading Room.                            | H. Print Rooms.       |
| C. Valuable Manuscripts. | F. Book Shelves, occupying several stories. | I. Manuscripts.       |

"armarius" was ordinarily employed to designate the librarian of such collections. He was required to take oath not to sell, pledge or even lend any of the volumes entrusted to his care. The books were often chained and were not lent unless secured by good and sufficient guarantees.

The library of St. Victor was already known in the twelfth century; it was made public in 1652. In the thirteenth century the libraries of the Sainte-Chapelle, the Sorbonne, Saint-Martin-des-Champs, and Saint-Martin at Tournai, already comprised a considerable number of works. A single apartment was, however, generally sufficient for the storage of the entire library. Some collections were kept in chests, so that they were portable. Charles the Bold carried all his books

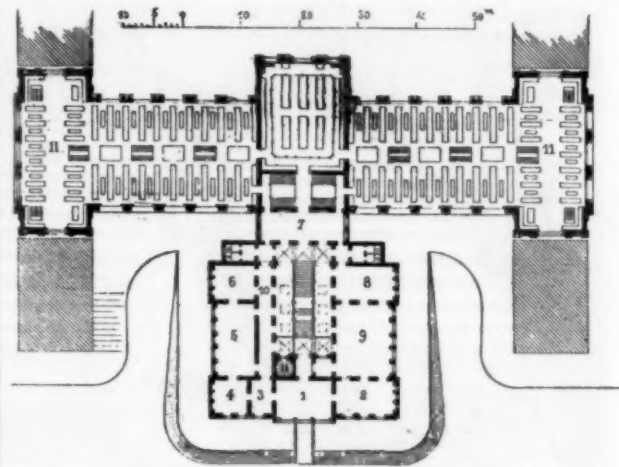


Fig. 8. Plan of the Library of Stuttgart.

- |                 |                          |                   |
|-----------------|--------------------------|-------------------|
| 1. Librarian.   | 4. Assistant Librarian.  | 8. Periodicals.   |
| 2. Manuscripts. | 5. Catalogues.           | 9. Reading-room.  |
| 3. Binder.      | 6, 7. Despatching Rooms. | 10. Corridor.     |
|                 |                          | 11. Book-shelves. |

with him in his expeditions, which accounts for the fact that at the battles of Morat and Granson his manuscripts fell into the hands of the enemy.

In 1624 the old abbey of Sainte-Geneviève underwent a "reform," which called for the establishment of a library; in 1670 the number of volumes collected necessitated the construction of special library quarters. For this purpose the second story of the abbey was remodelled on a cruciform plan, with the librarian's office at the intersection of the two axes of

the cross. This rather ingenious arrangement made surveillance over all parts of the library practicable and easy.

It is not until the close of the seventeenth century that we find isolated structures suitably arranged for the reception of large collections of books. We give the plan of the library erected at Wolfenbüttel between 1706 and 1710 (Figure 4); it is the earliest building disposed as a library which still serves as a type for edifices of the kind. Its general arrangement was adopted by Gibbs for the Radcliffe library at Oxford. Messrs. Robert and Sidney Smirke, the architects of the great reading-room of the British Museum, followed the same disposition, although they simplified it, as is shown by our plan and view (Figures 5 and 6). The circular hall was also adopted by Mr. Smithmeyer, the architect of the Congressional Library at Washington (Figure 7).

Public libraries are numerous in England; M. Pascal, the architect of the National Library at Paris, has given an interesting description of them in his remarkable report addressed

the last two are given in Figures 8 and 9. We reproduce likewise an outline of Herr Oscar Hossfeld's scheme of a library at Berlin (Figure 10). This plan dates from 1875; it includes

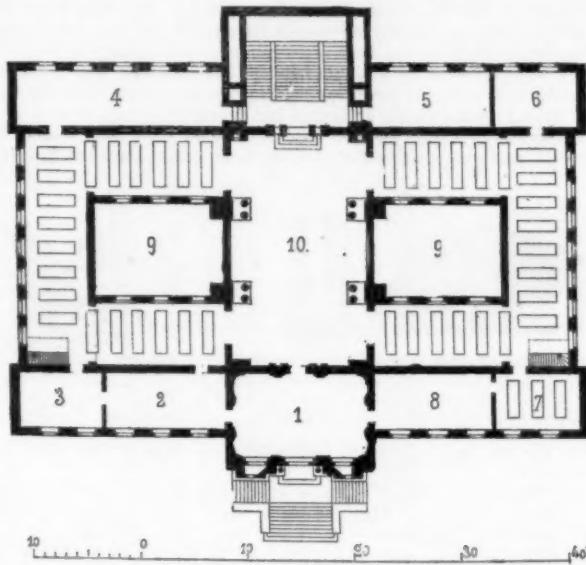


Fig. 9. Plan of the New Library of Wolfenbüttel.

- |                  |                 |                  |                      |
|------------------|-----------------|------------------|----------------------|
| 1. Vestibule.    | 4. Manuscripts. | 7. Periodicals.  | 10. Exposition Hall. |
| 2. Registration. | 5. Biblics.     | 8. Reading-room. | 9. Courts.           |
| 3. Librarian.    | 6. Available.   |                  |                      |

a reading-room for the accommodation of four hundred or five hundred readers, shelf-room for two and a half million volumes, departments for maps and music, and a museum.

[To be continued.]

#### ANCIENT ARCHITECTURE FOR STUDENTS.<sup>a</sup>—XIV.

##### LYDIA AND GREECE.

###### CHRONOLOGICAL NOTES.

|                                             | B. C.         |
|---------------------------------------------|---------------|
| Country invaded by Egyptians and Phœnicians | 12th century. |
| Lydian Empire founded                       | 716           |
| Alyattes, king, died                        | 561           |
| Croesus, king (son of Alyattes)             | 547           |
| Invasion of Cyrus the Persian               | 545           |

###### GREECE.

|                                        |     |
|----------------------------------------|-----|
| Invasion of Darius, Battle of Marathon | 490 |
| Invasion of Xerxes, Battle of Salamis  | 480 |
| Pericles, ruler at Athens              | 438 |
| Invasion of Philip of Macedonia        | 340 |
| Empire of Alexander the Great founded  | 332 |
| Death of Alexander the Great           | 323 |



The Minerva of the Vatican.

THE early history of the Greeks, like the histories of the other early monarchies, would be entirely lost to us, were it not for the recent discoveries which have brought to light matters of the utmost importance, explaining many otherwise hopeless problems as to the origins of their manners and customs and religions.

We learn that Greece had a history long prior to the eighth century, B. C., when the various Pelasgic tribes occupying the country began to unite and form the nation we know of as the Greeks. There was an ancient race known as the Pelasgi, closely allied to the tomb-building Etruscans, but time has swept away all monuments of their existence above ground, and we have only tombs or treasury chambers beneath the surface, in which we may learn something about them, and where we find that the authors were a Turanian race.

As far back as the fifteenth century, B. C., there was an immigration of a warlike but temporary nature of Egyptians and Phœnicians, who, according to ancient historians, invaded the country of this their growing rival and established colonies among the inhabitants. In the twelfth century we learn the Greeks had a colony in Cyprus under the rulership of the Phœnicians. So that the fables of the later Greeks, who gave to the gods honor as their instructors, are swept away by the light of the knowledge of to-day, and it is easy to see the connection between the arts of Greece and Egypt, Assyria and Persia.

The chief city of the ancient Greeks or Lydians in Asia Minor was Mycenæ. One tomb has been known for many years which to

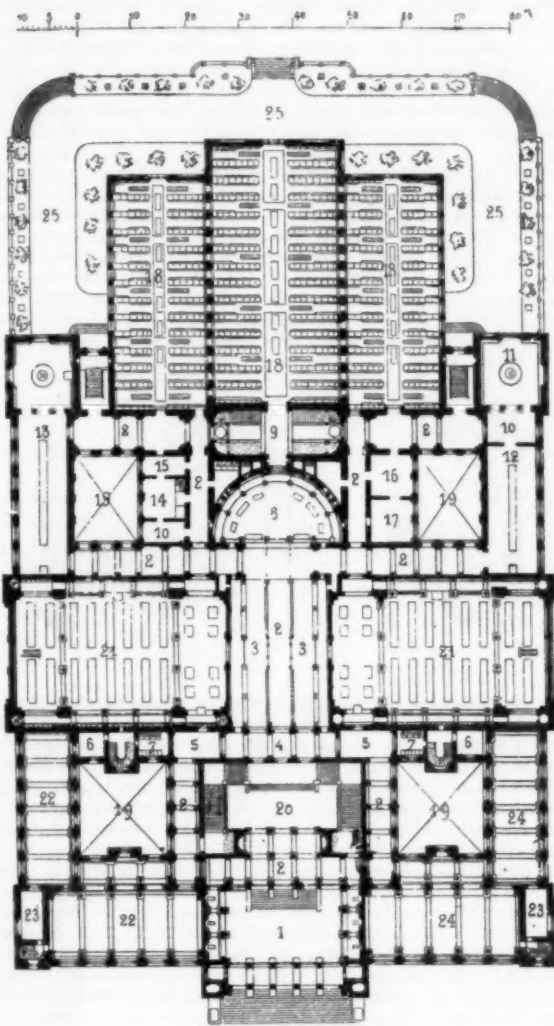


Fig. 10. Plan of the Berlin Library.

- |                    |                                  |                    |                      |
|--------------------|----------------------------------|--------------------|----------------------|
| 1. Vestibule.      | 7. W. C.                         | 12. New Books.     | 20. Grand Staircase. |
| 2. Passageway.     | 8. Reading-room.                 | 13. Periodicals.   | 21. Reading-room.    |
| 3. Books returned. | 9. Attendants.                   | 14, 15. Librarian. | 22. Music.           |
| 4. Catalogues.     | 10. Official Stairway.           | 16, 17. Clerk.     | 23. Study.           |
| 5. Lavatories.     | 11. Antechamber.                 | 18. Book Shelves.  | 24. Maps.            |
| 6. Attendants.     | 12. Private Room for Attendants. | 19. Court.         | 25. Terrace.         |

to the Minister of Public Instruction and Fine Arts, concerning libraries and schools of medicine in England and Scotland.<sup>1</sup>

The Imperial Library at Vienna, completed in 1735, comprises three richly decorated halls; the central one is oval and covered with a dome.<sup>2</sup> The library of Carlsruhe is in the form of a cross; the reading-room occupies the centre and is surrounded by small rooms for the catalogues. The new library of Munich was constructed after the plans of Herr Gaertner; but it offers nothing of especial interest. There are modern libraries at Cologne, Stuttgart and Wolfenbüttel; the plans of

<sup>1</sup> This report was published in the *Revue générale de l'architecture*, Paris, 1884.

<sup>2</sup> See the plan of this library, Vol. XXXI, No. 784, page 3.

<sup>a</sup> Continued from No. 822, page 196.

this day is in tolerable preservation. It consists of three chambers, a long ante-chamber opening into a circular room, from which another and smaller chamber branches off, which was probably the room in which the body was deposited. The circular room, 48 feet 6 inches in diameter, has the form of a cone, its sides as they rise curve inwards so that the section represents an equilateral arch. The construction is of horizontal beds in rings narrowing as they ascend, the apex being covered by a single stone. The chamber was lined internally with plates of brass, and a fragment of a shaft was found in the ante-chamber, richly decorated but decidedly Asiatic in detail.

Pausanias describes another tomb that must have been similar in arrangement and construction, but much larger in diameter, judging



Section and Plan of Tomb of Atreus at Mycenae.

Gate of Lions, Mycenae.

from the remains, which are believed to be those of the tomb he alludes to.

The entrance-doorways of these tombs are covered with a huge lintel, over which is a triangular space, like a relieving arch for the preservation of the lintel. The lintel seems rather useless, as the arch above is amply sufficient protection to the doorway, but it is probable that the triangular space was intended to be filled-in with a carved image or group standing upon the lintel, as in the case of the tomb at Mycenae, already described, the doorway of which, from the sculpture above, is known as the "Gateway of the Lions." When there was no intention of ornamenting with sculpture in this way the lintel is left out, the arch forming the head of the opening. Another mode of arch-construction is similar to the roofing of the chambers in the Pyramids of Gizeh, immense stones set up at an angle and meeting over the centre of the space.

The great German explorer is at the present time engaged at this very place in unearthing remains, and news is received that Dr. Schliemann<sup>1</sup> has discovered at Mycenae quantities of tombs cut out of rocks and carefully formed into regular apartments. The method of burial is also made known, for he finds the dead laid out, without being covered with earth, nor were they cremated. Articles of pottery, glass, crystal, ivory and gems are said to be now on their way to Europe.<sup>2</sup>

The great Trojan war put an end to the connection of the Pelasgi of Greece with similar tribes of Asia Minor, and after that comes a period of four centuries duration, when the arts appeared to be dead and a cloud rested over the land. The Lydian Empire, from 716 B. C. to 547 B. C., was one of the most powerful in Asia, and at the same time the Ionian colonies of Greece possessed such power that they even dared to send a taunt to the great Cyrus and dared him to invade their territory. Grecian colonies established all along the coast were of the greatest importance, politically and nationally, whereas the Phœnician colonies were, except in the case of Carthage, purely mercantile. The Greeks even founded colonies on the shores of the Black sea, everywhere spreading their characteristics and either subduing the Phœnicians, who were generally before them, or making them Greek in character, much in the same way as the Russians colonize nowadays.

Cresus reigned over Lydia when Cyrus came against him in 547 B. C. Cresus was the son of Alyattes whose monument, erected 561 B. C., existed in the days of Herodotus, who describes what he saw and remarks that it was the only object of interest in the place. "The base is of large stones and the rest a mound of earth, on the summit of which were five termini upon which were inscriptions relative to its construction." Its circumference at the base was, according to the same historian, 3,800 feet. According to the Prussian Consul, Herr Spiegelthal, who examined it, the wall of large stones mentioned by Herodotus was simply an addition to a rocky platform,



Section of the Tomb of Alyattes.

on the edge of which it stands 60 feet in height, the mound rising on the top to the height of 228 feet above the plain. The termini stand on a platform of solid masonry on the top of the mound, and one of them has been found. Herodotus apparently did not know that there was a sepulchral chamber, but at 160 feet from the centre of the mound one has been discovered that measures 11 feet x 7 feet 9 inches x 7 feet high.

Several tumuli exist in the neighborhood but this one of Alyattes is supposed to be the most modern, and its description will suffice as giving the general characteristics of them all.

Cyrus conquered Cresus and carried him away captive to Perse-

polis, but before proceeding further with the history of the country we must notice the groups of rock-cut tombs, among which Dr. Schliemann is making further discoveries every day. Those which have been known until quite recently appear to have had no sepulchral chamber, only a cavity made in the face of the cliff, the whole of which, so far as it was suitable, being adorned with geometrical patterns of the nature of the Greek frets. One was surmounted by a pediment, ornamented on the face with projecting squares and at the apex with two scrolls. The wooden origin of all these tombs of Lydia is very apparent, and it is evident that it was from the Persians they learned the use of stone, for none of them date back beyond the time of Cyrus. But among these tombs we find many details of extreme interest because they are the immediate forerunners of the Grecian orders, tombs all rock-cut but with horizontal cornices surmounted with pediments, others again clearly exhibiting the development of the orders. One is of "Ionic" form with a façade of two columns flanked by pilasters, having architrave, dentilled cornice and pediment above.

Following the history of Greece we see how intimately the Greeks were connected with all the known countries of Asia. They were essentially a military people and at the time of their greatest prosperity they were the support of every monarch or ruler who could purchase the service of the Greek mercenaries. The Persians, Cyrus, Cambyses, Darius and Xerxes each led an expedition against Greece, each obtained for a short period temporary success; but each in turn had to retreat before the half-clad and terrible, trained fighters—Darius at Marathon, 490 B. C., Xerxes at Salamis, 480 B. C.—after which the Persians under the less ambitious rule of Artaxerxes gave up the idea of becoming in fact the rulers of the world, though they for another one hundred and thirty years continued to call themselves by that imperious title. With characteristic Persian arrogance the Shah of Persia still is called the "King of Kings." Artaxerxes and his followers contented themselves with the subjugation of the neighboring tribes or with invasions of Egypt, assisted by the Greek mercenaries. The Athenians were the principal actors in these events which kept the Persians at bay, the Spartans lending but grudging aid and then only when their immediate interests were concerned. We have seen how Egypt employed



Ionic Lycian Tomb.



Temple of Athena at Aegina.

Greek mercenaries in her war against the last of the Persians, Darius Codomanus, and how they and the Greek mercenaries in the Persian army united and defeated both the Persians and Egyptians; after which Alexander the Great, son of Philip of Macedon, who founded the Macedonian Empire and overcame the Greeks, being bent on becoming literally the sovereign of the world, invaded Egypt, conquered her and established as a memorial of his success the city of Alexandria. Alexander next turned his arms against Darius Codomanus, and at the very spot "where the Assyrian Empire had arisen and where it had been overthrown by the Medes, the Medo-Persian Empire was now" to be brought to its close by the Greeks and Macedonians. The battle of Gangamela, not far from Nineveh, decided the fate of the Persian Empire 331 B. C. Babylon, Susa, Persepolis, fell into the hands of Alexander, and he still pushed eastward, conquering the tribes of the hill countries, and finally invading India itself. Opposition from his officers alone prevented his further conquests, but a greater and more important result than further conquest was due to this change of his plans. Sailing down the Indus, erecting forts as he went, conquering the inhabitants, whom he found by no means insignificant in military prowess, he founded at Pattala, the mouth of the Indus, another town of Alexandria. His personal bravery in his battles with these people was conspicuous, and at Malli, their principal stronghold, he was badly wounded, so much so that his plans were for a while delayed. He returned homewards with his army along the coast, intrusting to his friend, Marchus of Crete, the voyage across the Indian Ocean, which resulted in the momentous discovery of a water highway from Arabia to India in the year 325 B. C. At Babylon he conceived the idea of extending his empire westward and by the subjugation of the Carthaginians making himself master of the western world also. Before attempting this he set about the firm establishment of the empire he had won. He married a daughter of the Persian king, Darius Codomanus, whom he had defeated, hoping that by the issue of the marriage, the two nationalities of Persians and Greeks would be united; but before any such scheme could be carried out death cut short this remarkable career, a career unequalled by any man in the world's history, especially when his youth is taken into consideration.

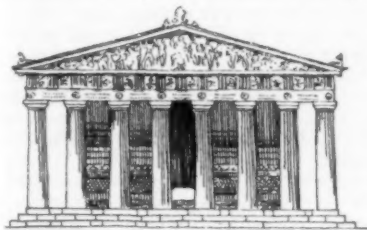
<sup>1</sup> Dr. Schliemann has died since this was written.

<sup>2</sup> Standard, Sept. 15, 1888.

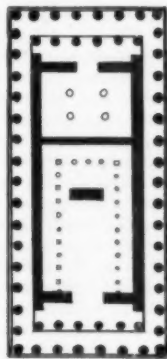
He died in the year 323 B. C., at the early age of 32 years, having been Emperor of all the world east of Greece for nearly eight years.

Very little of the architecture of the Greeks exists now that dates prior to the invasion of the Persians, and, therefore, we have to take those examples of an almost perfected art as representative of the state of culture of the country, or rather, of the principalities of which Greece was composed. We have to bear in mind not only that the Greeks, by their expeditions, came in contact with the arts of older countries, but the older countries brought their arts to them as well. The Phœnicians are especially the transmitters of Egyptian and Assyrian work, and we have seen that the Hittites also gave the inhabitants of Asia Minor their first notions of civilization, and thence they took them to Greece, so that in Greece was now centred or concentrated the united talent, experience and influence of over three thousand years' duration of at least seven great nations and peoples. Look at the physiognomy of the Greeks, and see with what beauty they are endowed, and with what refinement of mind, and compare them with the swarthy, dark, thick-lipped characteristics and their modifications in the people we have been learning about. Greek buildings have lasted down to our time in far better preservation than any buildings of the earlier empires, not only on account of the better materials used in their construction, but also because against them there was no such direct vengeance of God as was foretold by the prophets regarding Assyria and Chaldea. The Greeks had a material to work with hitherto unknown, white marble procured from Paros, Cyprus and Ægina, so that the appearance of their beautifully-proportioned temples, brilliantly white, standing out against the deep blue of the Mediterranean sky, must have surpassed anything hitherto seen.

Not only do we know their buildings well, but we also know the names of their artists and architects, and feel that we have better data to go upon than heretofore. Up to this time we have been groping in the dark among mounds of sandy loam, and learning about the ancient buildings only what we could pick up or unearth, without the aid even of contemporary historians to guide us. Here we have the accounts of several authors who saw the buildings they describe, and we are able to examine for ourselves the various steps of the progress of the art, with all its details before us, to arrange and classify them into three distinct



The Parthenon.



Plan of the Parthenon.

orders, which we know as Doric, Ionic and Corinthian. All the orders are remarkable for solidity, but have a tendency towards something lighter. The usual form of the Greek temple is a right-angle parallelogram, with columns usually at one end or all round it.

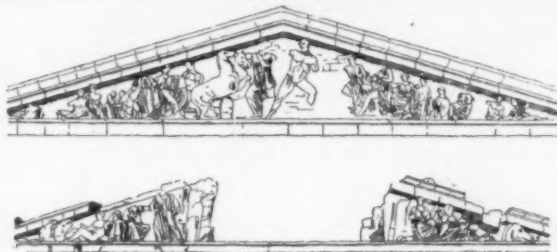
The Doric, or earliest order, is very simple—a column without a base, shaft sometimes fluted, sometimes plain, wider in diameter at the foot than at the neck, but with decided entasis, a shallow cap consisting of abacus and echinus, and ornamented at the junction with the shaft by a triplet of raised annulets, an entablature of plain architrave, a frieze divided into triglyphs and metopes, and a corona or projecting uppermost member. Upon this was the pediment, the tympanum of which was beautifully adorned by sculptures.

The Ionic, a lighter and more graceful order, had a moulded base to its shaft, and the cap was a far more ornamental feature. The earliest examples of this cap had two of its faces differing from the other two, the difference being in the volute, which we have traced from Persia, facing one side and abutting on the other. Stripped of its ornamentation, the Ionic cap has the appearance of the thick abacus, the ends of which have been rolled round or turned under, so that two sides show the scroll and the other two the rolled end. Something was felt to be very awkward about this cap, because at the angles of the building the columns would have caps presenting at the side a different face to all the other columns along that side, for as the faces of the front and side columns faced outwards, the rolled side of the corner caps would be towards the side elevation. Many attempts were made to obviate this difficulty, but all were alike abandoned as makeshifts until the notion arose of turning out the volutes at the angles of the buildings, and having a cap with two voluted faces at right angles to each other, made specially for this situation. This gave rise to the curved faces and four projecting angles of the Corinthian abacus.

The Ionic entablature had its architrave divided into three fasciæ, the frieze was treated in a bolder manner and had sculptures all along it, and to the Doric cornice and pediments were added dentils.

Of the Corinthian order we have only one example in Greece. Strictly speaking of it as an order, it does not belong to Greece. It

was developed by the Romans and did not rise in Greece to the dignity of a temple order. Its name is misleading, as it has little or nothing to do with Corinth, and as to how it got its name is a mystery. It has many points in common with the Ionic, and is more to be distinguished from it by the foliage rather than by its proportions, but it is particularly rich and beautiful. The base is elaborately moulded and the shaft fully fluted, and the caps, of which the



The Parthenon Pediments: Western and Eastern.

main features are the curved faces of the abacus and the supporting small volutes, is gracefully adorned with two tiers of acanthus leaves, and to the cornice of the Ionic are added modillions or brackets.

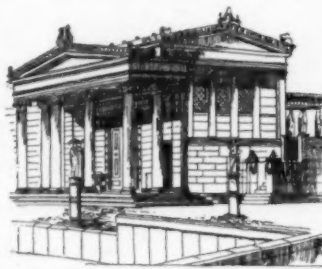
Columns and entablatures of these orders have each their proper proportions, all shafts have an entasis, all the "flat" horizontal surfaces of the architrave between the columns are slightly cambered to correct the optical delusion of depression at these places, produced by the horizontality of the members of the entablature.

Color-decoration was used freely and with great effect, flat surfaces being often relieved by geometrical patterns. We have remarked on the manner in which the Greeks added color to their statues, not over the whole surfaces but only in parts for emphasis; but so much color-decoration has recently been found in large portions on flat surfaces even when the material covered has been white marble, that it has been suggested that the whole of the interior of their temples was a mass of decoration in color.

Of the older examples, the temple of Corinth, erected about 650 B. C. (but of which the exact date is unknown), is the first. It must have been a very massive building, judging from the architrave, which is the only detail now existing, and more like Egyptian work in its massiveness than the work of Asia Minor. The small temple of Ægina erected about 100 years latter is another example. But it is Athens that contains the best art of the country, despite all the wars in which that principality was engaged.

The Temple of Theseus is an example of the transition from rudimentary Greek art to the more perfect type, as exhibited in the great temples of the Parthenon, which was erected but a few years later, and is the most magnificent building, both in proportion and detail, that the country can boast, said by many to be the most beautiful building of its class in the whole world.

The Parthenon had a façade of 101 feet and a depth of 227 feet, and it was constructed from the designs of the great sculptor Phidias in the year 438 B. C. A colonnade of eight fluted columns at each end and of seventeen along each side, stood upon a base of four steps high, thus forming the peristylum round the temple. At each end was a porch of six columns within the others mentioned above, the pronaos and the posticum. Behind the pronaos was the cella, with an internal colonnade, and the statue of Minerva, and beyond this was another chamber opening from the posticum or rear porch, but separated from the cella by a solid wall. The columns of the peristylum were 37 feet 6 inches high and supported the entablature divided into triglyphs and metopes sculptured in high relief with a pediment at the east and west ends. A sculptured frieze, 47 inches high, ran round the outside of the wall high up, over five hundred feet long. Casts have been obtained of about two-thirds of it and are now in the British Museum, where it can be seen that it represents a procession



The Erechtheum.

of the gods. The whole frieze is executed with remarkable talent, the variety of the positions of one hundred and twenty-five mounted figures, no two of which are alike, and the vivacity and simplicity, are most astonishing. Of the metopes only about sixteen are preserved out of the original ninety-two. They represent the contest of the centaurs and Lapithæ at the marriage feast of Pirithous. Pausanias is the author to whom we are indebted for much of our information upon this building as it existed in his time. The pediments at either end were filled with sculpture, the principal one is, of course, the western portico over the entrance to the cella, and the sculpture here represents a contest between Minerva and Neptune for the possession of Attica; while in the eastern pediment is represented the birth of Minerva from the head of Jupiter.

It will be remembered that low relief was the method of the Assyrians for the ornamentation of their temples, and it is interesting to

notice to what perfection the Greeks brought this art. The low relief at the Parthenon is acknowledged to be the most beautiful example of the art in existence. The colossal statue of Minerva, executed by Phidias in ivory and gold, for the interior of her temple (the nude in ivory and the drapery in gold), was 37 feet 6 inches high and stood on a pedestal measuring another 10 feet high. The use of the two materials for the composition of the statue shows what a master of this art was the sculptor of that day.

Phidias also made the other great statue, Minerva Promachus, said to be between 50 feet and 60 feet high, and which stood on the Acropolis between the Propylea of the entrance and the temple of the Parthenon; it is said to have been visible from Sunium, twenty-five miles away. Both these statues were slightly colored about the features and the hair.

About the same time (436 B. C.) the Temple of Jupiter Olympia in Elis, on the model of the Parthenon, was completed, and Phidias made a colossal statue of the god to be placed inside it. This was a seated statue 55 feet high, including the throne, and reaching almost to the roof of the building, which was only 9 feet higher to the external ridge of the pediment. Several statuettes and groups adorned the throne. The temple of Jupiter Olympia on the Acropolis, is the work of the Romans and was not erected till 100 years later. Another building erected under the superintendence of Phidias was the Propylea or Portico of the Acropolis, built of white marble and decorated in color by Panæus, brother of Phidias. The Erechtheum on the Acropolis, erected 420 B. C., is the most perfect of Ionic examples as to the style of its architecture, but its plan is very peculiar and exceptional. It consists of three separate temples joined together, of different dimensions, directions, scales and levels. The most interesting feature is the caryatide porch of one of these temples, of six female figures taking the place of columns and supporting on their heads the entablature.

But the largest building in the Ionic order was the Temple at Tægea in Arcadia, described by Pausanias, but of which nothing now remains. It was a late Ionic order and a fair example of the transition from Ionic to Corinthian.

The great temple of Diana, at Ephesus, was of this date, 323 B. C. and in the Ionic order. It stood on a platform 480 feet by 222 feet 6 inches, having a double colonnade of columns 60 feet high round the cella, with an additional row making at each end a triple colonnade, with four more columns in the pronaos. In the cella was a figure of the goddess. But the particular feature in the architecture of this temple was the sculpture on the columns themselves. Pliny states that there were 127 columns, of which 36 had a band of sculptured figures in low relief, but life-size, forming a drum above the base or pedestal and below the bottom of flutings. The whole column was raised upon a square pedestal also richly sculptured. This temple was one of the seven wonders of the ancient world, but it was ruthlessly destroyed by the invading Goths 500 years later. In Roman times it was used as a repository for works of art of all kinds, but very little has been unearthed. The statue of Diana was anything but beautiful, the body was covered with a number of breasts, to signify her title as the Mother of all Nations. The Hittites worshipped the same goddess under the name of Rhea or Derketo, and the same image has been found on cylinders of the Chaldean Empire.

The Choragic Monument of Lysicrates, or the "Lantern of Demosthenes," as it sometimes is called, at Athens, is the most perfect example of the Corinthian order. It was erected 335 B. C., and sculptured in the next year. The frieze represents Dionysus turning the Tyrrhenian pirates into dolphins. Fergusson describes it as having a square base 12 feet high by 9 feet wide, on which stands a circular temple adorned by six Corinthian columns, which, with their entablature and the roof and pedestal they support, make up 22 feet more, so that the whole height of the monument is only 34 feet. The beauty of its columns and of their entablature, and above all the beauty of the roof and of the final ornament, which crowns the whole and is unrivalled for elegance even in Greek art, "make up a composition so perfect that nothing in any other style or age can be said to surpass it."

The sculpture of the Greeks deserves a few further remarks before we leave this part of our subject.

We have seen that it was in Cyprus that a new phase of art in statuary had its birth, indications of attempts to give the appearance of life are apparent, and in the statuary of Greece we see what immense progress has been made in the development of this improvement. Instead of resorting to tricks such as turning up the corners of the mouth to express a smile, or elongating the eyes, we see that the Greeks copied from life, and all the features are true to life, and every limb is easy and natural in its position. Figures were represented in all positions, in all actions, men and women, true to life and in order to emphasize the life, a little coloring was resorted to, not to help the form, which was perfectly correct and beautifully worked.

[To be continued.]

## GERMAN CASTLES.—I.

•MARITZBURG—EXAMPLE OF WATER TOWER.



IN the greater part of Germany, the country-seats, or manor-halls which were described in a former series of papers, are called castles—*schlösser*.

The word "*schloss*," indeed, is applied to almost any house of considerable size which a nobleman owns and inhabits. It is an old appellation that comes down from the days of feudal deference to rank; and, although the inhabitants of towns attack the custom, by calling small seats *villas*, the appellation is retained. The common people and peasantry are used to the name, and they know of no other for the house of their superior or lord, even when their lord is a commoner (since the revolutionary year of 1848, knightly estates can legally come into the hands of plebeian purchasers); while their master himself is sure to deprecate all terms save the worthy old ones of *schloss* or *burg*. For besides the title *schloss*, that of *burg* has clung to some old castles; and princely castles are termed either palaces or castles. Thus the town residence of the German Emperor, in Berlin, is called indifferently, *palast* or *schloss*; while his country residence in Potsdam, on the other hand, is named a palace (das Neue Palast); quite in contradiction to the habit of other Continental countries, which have reserved the title of "palace" for the most part, to city houses.

The anarchy in the use of terms being such, every writer must make his own definitions, and a simple plan, which is followed in these papers, is to restrict the appellation of castle (*schloss*), to extensive seats; to massive piles, with some actual remains, or some reminiscences, at least, of the historical or original castle; to buildings, for instance, with a moat and drawbridge, or with a keep-tower, a shield-wall, a ring-wall, or an inner bailey or a court-yard.

The country seats which have been described were devoid of any inner courts formed by enclosing house walls. They were composed, instead, of a single, simple building, and lay in an open space between a barnyard (*wirtschaftshof*) in the front, and a pleasure park in the rear. No impression whatever of their being strongholds was conveyed—or, to translate the word *schloss* with liberal fidelity—of their being lock-outs and lock-ins.

A castle's main trait, in contrast to a country-seat, is a decided aspect of exclusiveness. And where nothing is present of the original nature of a stronghold, a building must sink, according to the logic of things, into some other category. It is a mere "seat," or it must go over, where magnificence and display are predominant, into the class of dwellings known as palaces.

Feudal lords built upon the most unpracticable spots in order to gain exclusiveness. A castle may almost be defined as a crazily-situated pile. It was perched upon a peak—when it was described by old chroniclers as a hill castle; or it squatted in the middle of a marsh, as Maritzburg.

The peak's sole value as a building site consisted in its impregnability, in the difficulty which its rocky steep presented against all approach, and in its advantages as a look-out and signal station. And so, too, with the sites of water-castles. They were pitched upon because of the peril which the surrounding quicksand shoals and secret wells presented to man and beast. Consideration, in a word, stopped at the question of *preserving life*, and had not reached to that of *preserving health*, or to our modern standpoint.

Naturally, the cost of building was increased by the old selection of building sites. So, too, was the cost of living. Noblemen of modern wealth, and with modern improvements for lifting and transporting, shrink from the outlays attendant upon residence in hilly *burgs*; and the castles on the Rhine change hands so continually in our day, for a great part, because of the drain which transportation up and down make upon an owner's purse and health. The feudal lord kept his lady and her women, who were the only members of the household that stayed permanently at home, on milk and beef; their wants were satisfied by the stables within the castle walls, or the game just outside of them. But even where cattle could be bred on the airy castle-height, the fodder for them cost heavy care, irksome regularity of administration and much expense. And then there were the stores, also, for horses that had to be kept on hand—no small matter, even where a lord's retainers were honest and numerous, and, as a rule, they were numerous and very far from honest.

The greater lords kept a separate establishment going on in the valley. It was called the "farm-court," and had a freeman for a manager, and serfs and peasants for laborers.

Very often the farm-court had been the old seat of the lord's own family. Up to the eleventh century, a large proportion of nobles might have been found living in the wooden houses and *kemenate* of

these courts in place of their subjects, or side by side with them. The enemies of princes up to that time had been a common enemy, or foreign tribes. Their fortresses, in consequence, were few, and had stood scattered like forts, at strategical points, along the boundary. They had been common public fortresses, while their private homesteads were inland and unfortified.

The feudal condition of living, where each home throughout the interior of the land had also become a stronghold, was a secondary and much later state—a state that began when native warriors, having routed the common enemy, turned their iron fists against one another and fought over the common booty; where quarrels grew up, and were left as inheritances to increasing and increasingly-divided posterity; when the whole country had become what the boundary once had been alone, or a seat of incessant miniature wars.

Families that were unable to build and sustain a separate castle apart from their farm-court, clubbed together and sustained a common mutual stronghold; the first impulse to union being some imminent danger, either from a feud that involved them personally, or from the presence in the neighborhood of an irresistible rabble of armed marauders returning or going to the scene of a feud. What the serfs of a single noblemen could not do alone the combined hands of several farm-courts were able to effect. A stone house was built by these upon an inaccessible height in the short time at their disposal, and the women and cattle of the farm-court hurried into it, away from the perils of conflagration and of capture that threatened below. "Once a refuge," an old proverb runs, "always a home." Nor can there hardly be a doubt that in many cases experience proved the proverb's truth, and that the inhabitants of the hill-house often saw the wooden structures of the farm-court which they had evacuated swept from off the meadow forever, and circular heaps of charred coals remain alone to mark their former homes.\*

What is certain, is the fact of the existence of numerous mutual castles, the parts of which were strictly divided between the families that owned it. The specific name for such homes was *gauerben-burg*,<sup>1</sup> a name that is still familiar to the old aristocracy of the Empire.

But even superior power and combination were unequal to the tasks of sustaining hill castles for a long time, from one century to another.

The steepest sites have been deserted one after another, for a family purse had to be equal to family pride to keep them up unintermittingly, and such purses naturally were extremely rare. It is stated by native authorities that the Wartburg is the sole specimen of a princely burg in Germany, which has never suffered from neglect from its founding in the twelfth century to the present day. Princes who came into possession of several castles preferred the more pompous ones among their number, and the plain mediæval strongholds, that were the cradles of their forefathers, like Hohen-zollern of the German Emperors, and Hapsburg of the Austrian Emperors, became through neglect, half the property of the elements.

The strongholds were relinquished for something better, precisely as the farm-courts had been before them. And castles, in their turn, gave way, in the ambitious progress of regal demands, to modern palaces.

For the majority of existing examples of extensive castles of the Renaissance, it must be pointed out here, are no more the real residences of princes, than are the semi-ruins of mediæval castles. Most of them have become crown property, instead; or have been sold to the State. They are used as historical museums, as magazines for powder, or as asylums for incurables and the insane.

Students owe as much attention to smaller castles, therefore, as to these great ones, in many ways, and in one or two matters, perhaps, even more attention. They were the seats of inferior clans, to be sure; but being the sole seats of their possessors, each castle was preserved and adorned with concentrated love. Such castles moreover, have occupied (inferior) moderate heights, and in addition to this first mentioned advantage of being the sole object of family attention and expenditure they have enjoyed also the advantage of being less exposed to the weather than their great rivals, and to the rapaciousness of strategical conquerors. They have often come down intact,<sup>2</sup> where their betters on commanding hills, have been stripped, plundered or razed. Their improvement has been in the way of repair, moreover, whereas the improvement of the castles of the rich and princely has been often reconstruction.

Later, when the elements of the typical castle have been defined, the royal great castles of the country must be looked to most, for artistic masterpieces of costly worth exist in them more abundantly than in others. At the start, however, every quality of castle is reviewed impartially: whether Roman, Mediæval, Renaissance or Rococo; whether hill or water castle; whether decaying or intact; and whether dwelling, magazine or hospital.

Numerous as the divergences among castles are, such a type is nevertheless clearly perceptible, and must have lain at the architectural<sup>3</sup> origin of every plan. It included:

1. A moat, or ring-wall, or both; with drawbridge, portal-tower and shield-wall.
2. A keep-tower, or *bergrfried* (belfry or donjon).
3. A *zwinger*, or bailey.
4. A domestic court, with stables, kitchens, grain-house and lodges, or servants' house.
5. A *palast* or lord's house, and *kemenate*, or ladies' chambers.
6. A bath-house, a well or cistern, and a garden.

In aspect the typical German castle is overweeningly plain. Its charm consists less seldom of a fine and splendid breadth in its original conception, than in the picturesqueness of certain details. It is concentrated in a tower, or is dissipated among the bold outlines of roofs as steep as the crags which their foundations rise from. You miss it in expensive broadside walls, to find it as a comparatively cheap bartizan or machicolation, a gallery or a window near the eaves.

The prime object of castles as strongholds was embodied in traits that became too ingrained to be easily effaced.

Where the trait of plainness has disappeared by dint of repeated renovations, it has generally been from the walls facing the inner court-yards. Here scaffolding could be put up and taken down at the least expense. Material could be collected here, also, with the most convenience; and a given amount of work showed to the best advantage, since the area of the inner walls amounted to only a minimum of the area of the outside walls or façades. Nor must it be forgotten that the German noblemen, who saw so much else in the Orient during their crusades to arouse their wonder and emulation, never found examples of decorated exteriors; the rule there is fine courts and bare fronts. And the exclusiveness of this oriental rule was a confirmation of the instincts of the feudal race of castle builders and owners. Many crusaders returned home and thence forward elaborated the idea with a distinct consciousness; and we shall see that in the successors of these Orient travellers, the idea was cultivated until buildings were built for the sake of the court; until tournaments and great festive scenes were withdrawn from open fields and the stare of plebeian eyes, into the enclosure of the castle bailey or *zwinger*.

The ground-plan of every castle, for the rest, varied considerably in shape, save in the case of water-burys. Sometimes the necessary parts were concentrated, or even heaped one over the other, instead of being one beside the other. Pointed peaks have been able to receive only a small foundation. Round, or long flat hill-tops, on the contrary, had to embrace extended foundations. In almost every case the formation of the site decided the conformation of the plan. Where the natural wall in the shape of a cleft or facet of a peak came to an end, there the artificial wall began. Sixteenth and seventeenth century *Schlösser* rest on their sites. But mediæval burys speak aloud of the reckless daring and energy of the feudal class that commanded them and ascend from their sites.

In a general way the moat was often like a line drawn around a plan. If a hill were conical and in the midst of a flat country, as occurs in Silesia, Posen and the northwest provinces, the trench was dug around the foot of the hill. The moats of castles situated on promontories, are mere cross trenches, cut from one long side to the other and separate the castle from the bulk of the mountain, just as an isthmus divides an island from the mainland. Instances exist where the moat is a natural cleft in the rocks, the rugged sides of which were once plated with smooth masonry. At Eltz Castle when I viewed it, this masonry was split by the frosts of centuries, and lay decomposed amidst the rubbish that filled the bottom of the moat.

The visitor drives over such half-obliterated portions of ancient burys, and remains unaware of their existence. The trained and alert eye detects them; but the average man overlooks them and gathers an impression that they do not exist.

Eight castles out of ten, on the contrary, possess some portion of their original moats. They exist in the North German provinces as ponds or as dry trenches. At Mühlradlet, in Lower Silesia, the drawbridge is represented by a stationary, arched, stone bridge—one end of which empties into the castle vestibule—and the moat below is a sunken hot-bed, the nursery of fine fruits and vegetables. The latter innovation, wherever it may be found, is apt to date from the middle of the present century. Filling moats three-fourths up and leaving the other fourth in front of the castle (*palast*) as a duck pond; or at the back, and widening them into pleasure lakes, was a fashion that had a long vogue at the beginning of the century. Noblemen now neither drain, nor fill up what happens to have escaped this fashion and remains left of their castle moats, but preserve them proudly as vestiges of antiquity.

In flat stretches of country where draining is difficult and expensive, and in consequence, very inefficient, the aspect of moats is

and its remains are put under exact investigation before any judgment is given. The reasons which have brought the change about are manifold. To the foremost reason the result of the exact measurements is reckoned, which the Rhenish archaeological societies make of authentic Roman foundations, and the comparisons they instituted between such foundations, Allemanic remains, and common, unauthenticated sites. The Roman remains it was found have an average length of 150 metres, and an average breadth of 120 metres. The ring-walls of the Allemanic, or ancient Teutons, on the other hand, have an average circumference of 2,500 metres. Thus the upper rampart of Heiligenberg was 1,900 metres round, the lower rampart, 2,900 metres; the ring-wall of Donnersberg had a circumference of 3,100 metres; that of Odilienberg 4,500 metres; that of Aterberg 5,000 metres. The Roman castles, in a word, were large enough for a cohort, the ring-wall for a tribe. Other differences between the two sorts of sites which are now weighed when settling the question of the origin of castles, relate to situation, and to the material and structure of the masonry. Roman engineers lay stress upon the strategical value of sites and on the possibility of constructing roads to them. The ancient Germans built no highroads.

<sup>1</sup>Steinberg castle was such a *gauerbe*; its inhabitants for generations were the several families of the clan von Kraick. Heinsheim castle was owned by the families von Enzberg, von Gemmungen and von Stein. So, too, do the archives of the baronial house von Roeder, and of the Counts von Schönberg prove the fact of their hereditary burys having been *gauerben*. They offered, perhaps, the first recorded Northern European examples of life in flats.

<sup>2</sup>Or as the German phrase is, "virginal," never taken.

<sup>3</sup>As for the historical origin of German castles, the weight of native authority inclines now to see it in most cases, in pure German sources. The theory of the Roman, Caesarian origin of ancient remains and sites is questioned, and each site

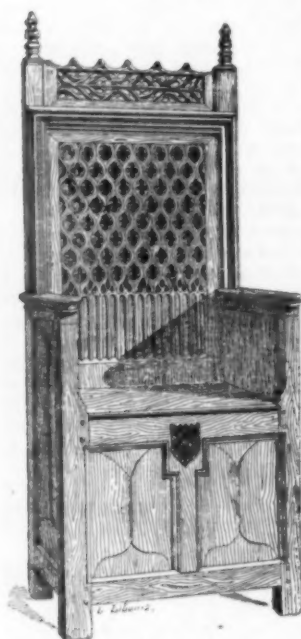
unfavorable to every sense, save the purely historical sentiment. The body of water is too small in most cases for serving as a mirror to the architectural masses that rise up near it, and, failing to do this, our modern scientific knowledge of the absorption of dampness and its unhealthful effects, is left to seize the imagination with its repulsive grip. Duck-weed and other minute aquatic plants settle on the unruffled surface of the water, and cover it by August with a greenish, noxious slime. The autumn wind sweeps drifts of dead leaves from the surrounding trees into the hollow trench. The mass becomes soaked and its weight at last sinks it. It moulders at the bottom of the water year in and year out, sending its miasmatic exhalations into the superincumbent atmosphere, to be drawn into every open window and door.

Once in every five or ten years the moat is cleaned; the provincial nobleman leaves it as long as possible. The work must be done when the water is warm, when all hands are needed in the harvest-fields. He dislikes the expense, and shirks it; the family has to flee from the *schloss* while the noxious *schlamm* (slime) is being shovelled out and is drying, and the cost of boarding elsewhere is to be reckoned along with the rest. He retains the moat with conservative pertinacity, but it is at his own loss and to the passing disgust of visitors.

The architectural features of castles are heightened in hilly parts of the country by moats, for they are then connected with vigorous streams. The liquid, mobile, glassy surface of such waters form the utmost contrast possible to the hard, massive, stationary piles which they flow by; the eminent traits of monumental architecture are all emphasized by the comparison. But it happens that castles command this advantage of contrast with flowing water, even where their moats proper are dry trenches, as in Albrechtsburg. Germany, indeed, is peculiarly distinguished for its abundance of such castles.

[To be continued.]

#### SOFT AND HARD WOOD FLOORS.



XV Century Chair with Cupboard. From Havard's "Dictionnaire de l'Ameublement."

**M**OST floors in North America are made from white or soft pine. Whether this arises from its being the most easily attainable, and its cheapness as compared with hardwoods, or from the custom of carpeting floors which exists here to a degree unknown elsewhere, it matters not. The fact remains that this is the condition the painter has to meet in nine dwellings or buildings out of ten, and no doubt the custom of carpeting has had to do with it as in that case it matters but little what sort of wood is used beneath it. We find soft-wood floors, however, not only in rooms which are carpeted, but under verandas, porches, and porches as well, and this is what will interest the painters most, as these exposed floors left to themselves without painting would soon rot away, and that much faster than any other portion of a wooden building on account of the moisture being retained much longer in a flat surface, at most times shaded from the sun, than upon exposed perpendicular ones.

These flat floors require also different handling than the sides of buildings do, as being very much more exposed to decay after painting than they, and in addition thereto they are used to walk upon and the paint has not only the elements to contend with, but that of friction as well. Of course a somewhat different system of painting is required for them than is used upon the other portions of a building.

It is the practice of many painters to use in painting their floors material prepared about the same as for the walls, with only perhaps a change in the tints. This would do very well if there were no friction or walking upon the floors; but this is all wrong, for paint as ordinarily mixed will stand but little of that without wearing off bare and causing at least a yearly repainting to cover up the spots so worn out.

An exposed floor should be laid down very carefully in the first place by the carpenters in white lead. (The tongue and groove should have a coating of thick lead before joining together.) However, as the painter has no control over this, this suggestion is indicated more for the benefit of architects and builders than for his. Whether this is done or not the next operation is that of priming. It is of the utmost importance that this should be done when the wood is free of moisture in ordinary painting; in floor painting it

becomes an absolute necessity that it must be so, for no subsequent amount of painting will last without that condition be fulfilled.

It matters not so much what is used in priming so that good raw linseed oil is used, and the pigment used with it be finely ground and well brushed in and out. This is essential, that all the pores may be filled as much as possible. It requires a conscientious man to do it, not any one, as the usual practice is. Simply hiding the bare wood from sight with paint is not priming nor filling it up as it should be; this requires the use of the best and truest talent in the shop. This dwelling so long upon the priming coat may seem absurd to many people, yet if a whole number of the magazine was given up to it and it would induce every painter that could be named to give the priming that due attention it should have, it would accomplish more good than a dozen numbers treating upon the subsequent coats of paint. The primary coat should have at least one week to dry before the next goes on to it.

It is now that the attention of the painter is required. If he wants a hard, durable paint, he must mix it to meet friction. With lead or zinc, the earth colors will only stand a limited amount of it, and we must look to the lead oxides for it. The red oxide (red lead) and the yellow (litharge), either one of these or the two mixed together, must become the base of the paint. It is true that the range of shades will not be very great, but it is possible to vary the shades so as to harmonize with the balance of the painting on a building.

If shades of brown are wanted, a little white lead and black, or white lead, ochre, and black, will give a good variety with red lead as the base. If buffs are wanted add white lead to litharge and you have them; the same with white lead and blacks will give dull dirty grays, so that shades ranging through red and yellow browns, the red and yellow buffs, and the yellow grays and drabs, can be made with these lead oxides as bases. Floors painted with such will stand a maximum amount of wear and tear. When two coats have been applied to good priming and become thoroughly dry they will be as hard or harder than metallic lead, and be elastic as well.

If this method of painting floors was more in vogue there would be much less objection to painted floors on the part of housewives than there is now, for their great objection to these is the necessity of frequent repainting to keep them in decent condition. Painted floors for kitchens, dining-rooms, nurseries, halls, billiard-rooms, etc., would be the rule instead of carpeting them as now. Carpets are very useful, but are not wanted in such rooms as we have enumerated, and are now used simply to hide the soft-pine floor.

As every one is not able to have hardwood floors it is certainly to the interest of the craft to give the housewife something that will take the place of the dirty carpet and that will give him employment as well.

For inside floor-painting, borders in fancy or plain colors can be introduced to relieve the monotony if desired. The centres of the rooms are the most walked upon and the borders need not be made from the oxides of lead as a base; we would advise, however, as much of these used even there as is consistent with the possibility of making a given shade.

This brings us to hardwood floors. In many sections of the country heart yellow pine is extensively used for this purpose, both because it is not very dear and on account of its beauty. For kitchens, etc., there is none better. Oak, hard maple, ash and in parquetry an endless variety of hardwoods is used. All these make beautiful floors, either by themselves or mixed.

In the good old days, when our grandmothers used to have hardwood floors exclusively, it was worth nearly a boy's or man's life to spill a little grease or oil upon the floor, as it gave the venerable dames an endless amount of hard scrubbing as well as an eternal vigilance to keep them clean and neat; almost as much worry and discomfort as the marble step, etc., of the Philadelphia houses do today to the housekeepers in that city. It is hinted that the funeral directors of that city divide profits with the architects; but history does not record the fact that our grandmothers lost very much health by their eternal and everlasting scrubbing. Be that as it may, the present generation of women are not accustomed to this, and consequently the painter's art is brought into requisition to relieve them of this drudgery, and it is expected of them that the floor will be grease and spot proof under ordinary conditions, and that the floors will be improved in looks as well by their process of treatment.

There are several excellent compositions in the market for the purpose. These are mostly varnishes of good quality. Before application the wood is filled with some hardwood filler of approved color, and generally two coats of the varnish are used over these. Sometimes the floors are simply oiled. There is an objection to all these processes, however, and that is that all these varnishes will darken in time, and that also in time they will wear through, especially about doorways or where there is constant walking. It is next to impossible to repair them over such worn places without showing up the patching.

The only process fit to cover hardwood floors, to our minds, is to wax them. The wax will preserve the true tone of the wood, only enhancing it; it will give it a nice dead or half-dead polish that is far superior to the glare of the varnishes, and at a small outlay of elbow grease can always be made to look at its best. With the weighted brush machine, a man, or a woman for that matter, can get over an ordinary house in two or three hours, and as this going over

is only necessary in halls or places much walked upon, a couple of hours a week of the housemaid's time is all that will be necessary to keep the floor in good condition after the first waxing has been properly done. — *House Painting.*



#### ST. LOUIS CHAPTER OF THE AMERICAN INSTITUTE OF ARCHITECTS.

AT the second annual meeting of the St. Louis Chapter of the American Institute of Architects, held on September 29, 1891, the following officers were elected for the ensuing year: *President*, Thomas C. Young; *Vice-President*, Jas. H. McNamara; *Treasurer*, Chas. K. Ramsey; *Secretary*, A. F. Rosenheim.  
Yours truly, A. F. ROSENHEIM, *Secretary.*

#### TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Boston, October 10, 1891.

Dear Sirs,—Will you kindly announce in the *American Architect* that the contributions for the Exhibition not forwarded through our regular agents outside of Boston, must be delivered at the Boston Architectural Club Rooms, 6 Hamilton Place, on or before October 19.

C. H. BLACKALL,  
WM. C. NORRIS,  
*Executive Committee.*



[Contributors are requested to send with their drawings full and adequate descriptions of the buildings, including a statement of cost.]

DOORWAY TO HOUSE OF JACOB C. ROGERS, ESQ., 231 COMMONWEALTH AVENUE, BOSTON, MASS. MESSRS. ROTCH & TILDEN, ARCHITECTS, BOSTON, MASS.

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

HOUSES ON WEST END AVENUE AND WEST 76TH STREET, NEW YORK, N. Y. MESSRS. LAMB & RICH, ARCHITECTS, NEW YORK, N. Y.

DINING-ROOM AND HALL IN HOUSE, CORNER OF WEST END AVENUE AND WEST 76TH STREET, NEW YORK, N. Y. LAMB & RICH, ARCHITECTS, NEW YORK, N. Y.

HOUSE OF I. HODGSON, JR., PORTLAND HEIGHTS, PORTLAND, OREGON. MR. I. HODGSON, JR., ARCHITECT, PORTLAND, OREGON.

LIVING-ROOM IN THE SAME HOUSE.

SCHLOSS ELTZ ON THE ELTZ, GERMANY.

SEE article on "German Castles" elsewhere in this issue.

THE ALBRECHTSBURG, MEISSEN, GERMANY.

SEE article on "German Castles" elsewhere in this issue.

#### [Additional Illustrations in the International Edition.]

TOMB AT MARSEILLES, FRANCE. M. G. ALLAR, ARCHITECT.

[Photogravure.]

THIS drawing was exhibited at the last *Salon*.

COTTAGE AT ST. ANDRAU, FRANCE. M. C. WULLIAM, ARCHITECT.

[Photogravure.]

THIS drawing was exhibited at the last *Salon*.

DOORWAY OF THE THIELE-WINKLER PALACE, BERLIN, PRUSSIA. HERREN EBE & BENDA, ARCHITECTS.

[Gelatin Print.]

NORTH PORCH, CHARTRES CATHEDRAL, FRANCE. DRAWN BY MR. H. WILSON.

MEMORIAL CHURCH AT COLSTON BASSETT, NOTTS, ENG. MR. A. W. BREWILL, ARCHITECT.

THIS church is now being erected by Mr. R. M. Knowles, of Colston Basset Hall, and when finished will take the place of the present church. The exterior of the new church has been erected in hammer-dressed Coxbench stone, whilst Hollington stone has been used for traceried-windows, string-moulds, parapets, copings, etc., and the interior is faced with hammer-dressed Coxbench stone, with Corsham Down Bath stone dressings. The roof will be covered with the Buttermere light-green slate. Our illustration is from the drawing exhibited in this year's Academy.

#### DESIGN FOR A TECHNICAL COLLEGE.

THIS illustration is a reproduction of a drawing by Mr. A. D. Smith, which was exhibited this year in the Royal Academy, and obtained much attention.



[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 DISHONEST PARTNER.

JERSEY CITY, N. J., October 5, 1891.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs,—If convenient for you to answer legal questions will you oblige me by giving your opinion on the following:

D and I, as partners, engaged as architects for a certain building. After the general drawings were made, the owners concluded to complete merely the shell of the structure at present, and contracts were awarded to this effect. Before the walls were half up, D had obtained from the owners checks, in his name, for over two-thirds of our per cent on these contracts, and had decamped. I continued to look after the work to the end. Have I any legal right to the full amount of my half-share from the owners?

The specifications and drawings for completing the building were then made by me as sole architect, and I superintended the work to the finish. Now it comes out that D borrowed of the first set of contractors, before leaving, giving his personal notes, and the owners are retaining the money I earned to satisfy these debts. Am I legally responsible for them? Respectfully, S. M.

[MUCH would depend upon the partnership agreement, and the contract between the architect and the owner, as to the rights of either partner separately; but it hardly seems possible that S. M. could compel the owner to pay him any part of his fee a second time, after he had already paid it in good faith to S. M.'s partner. In regard to the retention of the money due S. M. to satisfy his partner's private debts, the owner has probably been compelled, by a trustee process, to reserve the money until it has been proved in court that D's creditors have no right to it. The owner is not to blame for this; on the contrary, the trustee writ occasions him a good deal of annoyance, and perhaps expense for which no one is likely to indemnify him, and S. M. will do well to make him as little trouble as possible. No doubt, it is disagreeable to S. M. to lose a part of his money, and to have to wait for the rest, but if he does not like such experiences, he should be more careful in choosing his partners.—EDS. AMERICAN ARCHITECT.]

#### TO REMOVE GREASE FROM SINKS.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs,—Will you kindly inform us through your valuable paper, the best way of taking greasy matter away from kitchen sinks, etc., of a large institution, without "clogging" the drains. The building is in the country. Yours very truly, H. S.

[Use caustic potash liberally. Do not let it touch glazed earthenware, as it will take off the glaze.—EDS. AMERICAN ARCHITECT.]



WOOD-CARVING BY MACHINERY.—Machines for automatically reproducing particular shapes are very old, and are in widespread use. Such objects as wheel-spokes, hammer-handles, gun-stocks, oars and sculls, are almost universally made in copying-lathes, while finer objects, such as medallions, are executed in engraving-machines to a greater or smaller scale than the original. In decorative work the wood-carving machine has been of immense service. In the Palace of Westminster there are hundreds, if not thousands of panels, that were executed by the well-known Jordan machine, with, perhaps, a little help from that of Irving. This latter machine was produced in its simplest form in 1843,

and was perfected in 1848. Jordan's machine was produced in 1844, and was capable of turning out first-rate work. Earlier, however, than any of these dates that splendid mechanic, James Watt, had made a copying or carving-machine, apparently as a means of diverting his leisure hours. Not only would the machine (see the *Proceedings of the Institution of Mechanical Engineers*, 1883, page 619) carve in bas-relief on the flat, but it would do undercutting, and would sculpture a complete figure to a different scale from the original. This machine left very little for subsequent inventors to do, and had it been known would have had a prejudicial influence on the validity of their patents, when these claimed more than the exact mechanical arrangements by which the end was attained. In the years which have passed since the time of Irving, every possible change has been rung on the essential elements of the carving-machine. The work has been held stationary and the drill has been movable in every direction; the work has been movable in two directions and the drill in one direction, and so on, but in all cases the essential features have been that the cutter is able to pass over every portion of the work, and that it is constantly guided by a feeler which is passed over a pattern or copy. It would take a very long list to include all the objects and materials which are now daily shaped by copying or carving machines. — *Engineering News*.

**THE MARLBOROUGH HOUSE MUSEUM.** — It had long been thought desirable, both for the use of the schools and for the improvement of public taste, to form a museum of manufactures selected for their excellence in design or their skill in art workmanship, illustrative also of the history and progress of industrial art. Taking advantage of the French Exposition of National Industry at Paris, in 1844, the Council at Somerset House, with the sanction of the Board of Trade, decided to expend £1,400 on such examples of art-manufacture as might appear to the director of the schools calculated to benefit the students, as illustrations of applied designs. The close of the Great Exhibition of 1851 affording a favorable opportunity for the further acquirement of modern examples, Parliament made a grant of 5,000*l.* for this purpose, and with this sum a selection was made by a committee consisting of Mr. Pugin, Mr. Owen Jones and the two superintendents of the Department, consisting of woven fabrics, metalwork, enamels, ceramics, wood-carvings and furniture. The articles so selected were removed to Marlborough House, where they were first exhibited to the public, in May 1852, together with many loans and donations from Her Majesty the Queen, His Royal Highness the Prince Consort, the Royal Commissioners of the Great Exhibition and many others, and thus was formed the nucleus of the incomparable collection now to be seen in the South Kensington Museum. At one time a prominent feature of the display at Marlborough House was a collection of carpets, chintzes, paper-hangings, porcelain, etc., purposely selected as examples of "false principles" in decoration; and this section, though entertaining enough to the public, was productive of some amount of animadversion, for it was certainly not agreeable to manufacturers to find their productions—perhaps the most profitable ones—gibbeted in the eyes of the public with the announcement that there was "want of meaning and unity in the pattern," that "the helter-skelter distribution of the lines" were like "productions under the influence of the nightmare," and so forth. The names of the manufacturers were not mentioned, and in the later additions of the catalogue the more trenchant criticisms were softened down, but those who visited the exhibition will not readily forget the amusement caused by a display which was certainly somewhat invidious in its nature, and has never since been repeated. — *The Architect*.

**A BELL ONCE HUNG IN A CHURCH BUILT BY COLUMBUS.** — When Columbus laid the foundations of Isabella, Santo Domingo, the first settlement by Europeans (except La Navidad, a merely temporary stockade with small garrison) in the New World, the first structure to receive serious attention was the church. It was erected within a few months after the landing at Isabella, in December, 1493. In 1494 a city was begun in the Royal Plain of La Vega, and called La Vega, whither, doubtless, was transported everything portable in Isabella, which was soon abandoned. A church was likewise built at La Vega, and it is thought that the same bell that hung in the church of Isabella occupied a similar position in the belfry tower at La Vega. In the year 1542 La Vega was destroyed by an earthquake and the city abandoned. More than 300 years passed away. One day a man espied a bell in the branches of a "fig" tree—a tree that envelops everything in its reach, and which had wrapped its trunk around a portion of the belfry tower of the ruined church. This bell had been raised in the arms of the "fig" tree and was thus preserved from falling to the ground and being buried out of sight. The bell was secured, and for a long time was preserved as a venerated relic. It finally came into the possession of Padre Bellini, a patriotic priest of Santo Domingo City, who hung it in the chapel of his convent school. When Senor Galvan, the plenipotentiary sent by Santo Domingo to negotiate for the reciprocity treaty, was in Washington, he gave to W. E. Curtis, chief in charge of the Latin-American department of the Columbian Exposition, a letter to the heirs of Padre Bellini, requesting them as a great favor to allow the bell to come to the United States. This was presented to Senor Bellini, nephew of the late priest and ex-president of the Republic, who courteously allowed Mr. Ober, the Columbian Commissioner, to bring it away with him, after receiving ample security for its restoration at the close of the Exposition. It made the voyage to New York, whence it was sent to Washington, where it now lies awaiting the proper time for transportation to Chicago. This bell is of bronze, very small, but of elegant workmanship (8 inches high by 6 1-2 across) and bears on the surface the image of San Miguel, to whom it is dedicated, and the letter *F* in old Gothic. From this Gothic *F* it is inferred that it was a gift to Columbus from Ferdinand of Spain, husband of Queen Isabella. — *N. Y. Tribune*.

**WATER-POWER AND ELECTRIC SERVICE.** — Some idea of what electricity can do in the utilization of water-power is given by the work of

the various companies and plants in Rochester, this State. The falls of the Genesee River are largely depended upon, and render good service the year around. Rochester now has 1,991 arc-lights and 16,640 incandescents, and water-power is the main source of prime energy. But it is in motor-work that the most remarkable showing is made. One company alone is supplying current over its circuits, from generators driven by turbines, for no fewer than 832 motors. One of the circuits for motors strings out a distance of twenty-six miles and has nearly 400 motors on it. With but few exceptions all the motors on this circuit are in tailor shops, either in the dwellings or in shops behind them; and this ready access to power in very small quantities makes each man practically his own master. The price for a one-eighth horse-power service, which is ample to run a tailor's sewing machine, is only \$18 for a whole year, and for one-half horse-power only \$48, or less than \$1 a week. — *N. Y. Evening Post*.

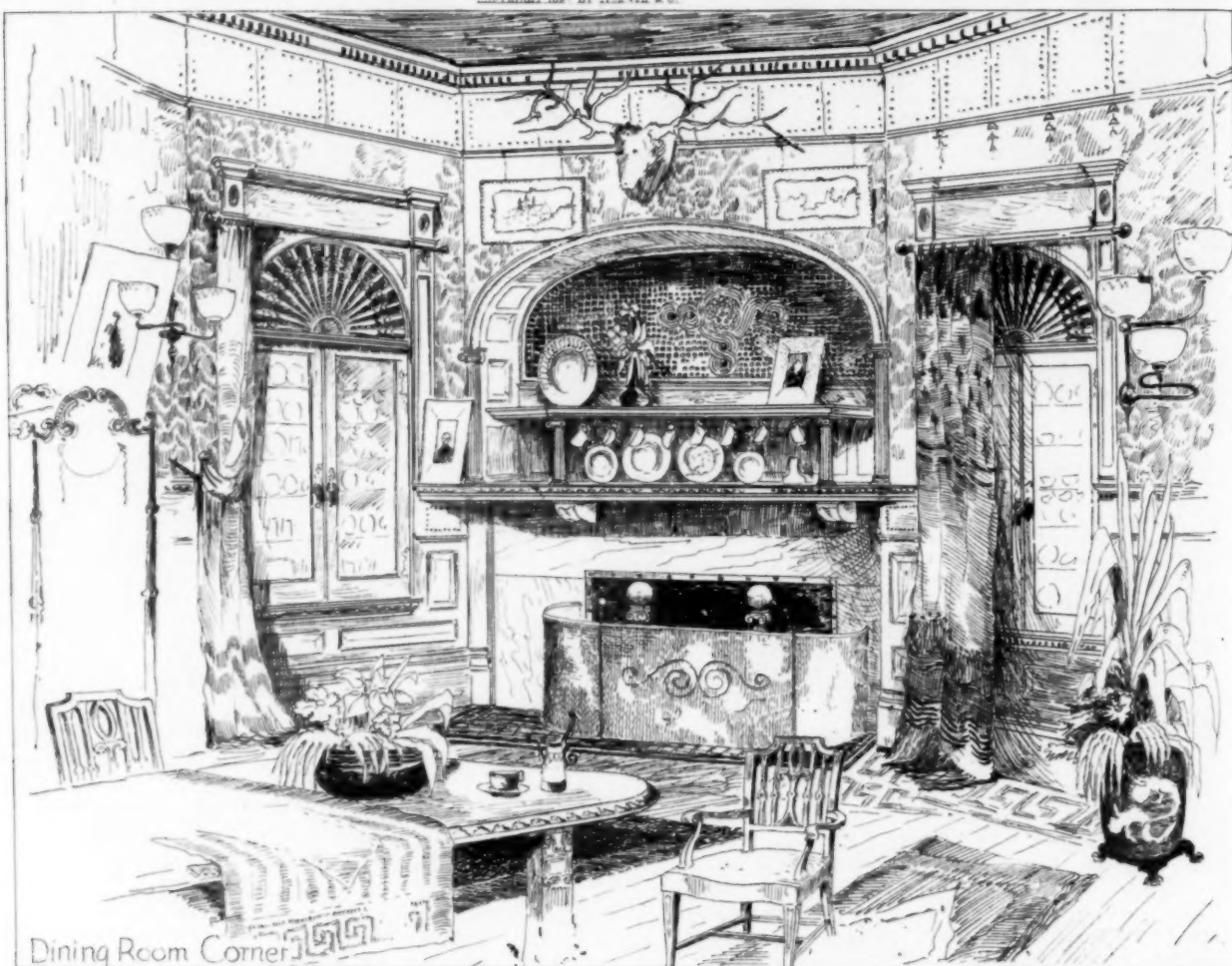
**A MUSEUM AT NORWICH CASTLE.** — The following letter from Lord Walsingham appeared in a recent edition of the *London Times*: "The work of converting the old Norman keep of Norwich Castle and the prison buildings around it to the purposes of a museum is now in progress. A meeting has lately been held at which additional subscriptions from his Royal Highness the Prince of Wales and others were announced. As President of the museum, I suggested that any donor of a sum of £1,000 (which would suffice to convert and fit up one of the separate buildings) should be entitled to have the record of his donation permanently inscribed on the building, which should be called after his name. I thought it not improbable that Norfolk and Norwich men now settled or resident in America, or in the colonies might gladly embrace the opportunity of associating themselves with a great public work in their native county or city in a manner which would insure to them a lasting memorial. Any response to this suggestion should be addressed to the Town Clerk, Norwich, who would also gratefully acknowledge smaller donations."

## TRADE SURVEYS

The temptation already arising, and likely to cause a good deal of trouble to business men between now and next spring, is to run up production beyond a safe limit, and to offer inducements before the right time to buyers to stock up. This contains the germ of a good deal of evil, which it is unnecessary to dilate upon; there is no way of preventing excesses in that direction. Hundreds of conservative firms will, of course, pursue a safe course; hundreds of others, with less experience and less wisely managed, will rush wildly on, inconsiderately, at least, into production. There are symptoms of this already, and it would be well if those who are preparing to anticipate demand would think twice before entering upon what will prove to be a dangerous and, to many, a suicidal course. It is useless to advise, even if advice could reach. This mistake has been made repeatedly, and it is one of those mistakes which can only be corrected by long experience. A new crop of business men is constantly coming up to make it over again. One advantage of the more or less stringent condition of the money market is that it is difficult for many firms to obtain the means to push ahead in this wrong direction. The stronger firms should remember this fact. While a larger supply of money would be a great convenience to thousands, it also brings its disadvantages. At this writing, the money market is not in a shape that is satisfactory to the rank and file of business men, notwithstanding the rosy reports presented in the financial columns of daily newspapers. Nearly all business men know that money is tight, and they feel within themselves that something ought to be done, but what they do not know, to make it easier for the current indebtedness of the country to be liquidated. While large speculative operations may run along smoothly, the petty little indebtedness of firms and individuals throughout the country is paid with difficulty—a fact which every business man knows. Still there are evidences of an easing up. Among these are the growing liberality of banks, the larger loans being made, the increasing imports of gold, the wiping out of indebtedness on mortgages in the West, and the general strengthening of confidence among the people. A great many new enterprises are ready to be pushed through, but it probable that they will not be undertaken until the coming spring. Among these are the establishment of manufactures by the thousands North and South, the construction of a good deal of railway mileage, the building of terminal facilities in quite a number of cities, the building of elevators in the Northwest and West, the erection of office-buildings and warehouses in the larger cities, the development of mines in the Rocky-Mountain region, the construction of ship lines and boats for lake service. Besides these, there are a number of enterprises of lesser magnitude, which aggregate a vast amount in the way of purchasing material when it comes to the prosecution of them. Raw material of all kinds continues low and in abundant supply. The leading industries are prosperous, though but few of them are making large margins. There is no improvement in the iron trade. The lumber trade is drying up for the winter. Enormous coal shipments are being made from all coal-producing centres. Throughout New England there is an activity in wholesale trade circles. Jobbers are quite busy, and have done a business which compares, up to this date, favorably with last year. The smaller industries throughout New England are prosperous, though in but few instances is there a rush of work. The paper-makers, the boot and shoe makers, small machinery-makers, manufacturers of electrical equipments and the manufacturers of shop equipments for steam power are all receiving orders from week to week sufficient to keep their present capacity employed. Late advices from Southern States indicate that there is no cessation in the projection, at least, of new enterprises, but there have not been as many new works started in the last three months as for the same time last year. Still, the industrial and commercial conditions all through the South are healthy, and it will, no doubt, continue to be a favorite field for investment. What the South needs just at this time seems to be a larger local demand, which, of course, will come only with the gradual increase in population. It is producing largely for export, so to speak, to the Northern and Western States, and the capital invested in these channels has about met the limit of demand upon it. The South must now look, for a while, at least, to the growth of its own local demand, and it is encouraging to be able to say that this is steadily increasing month by month.



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Dining Room Corner

House W. 76 St and West End Ave.

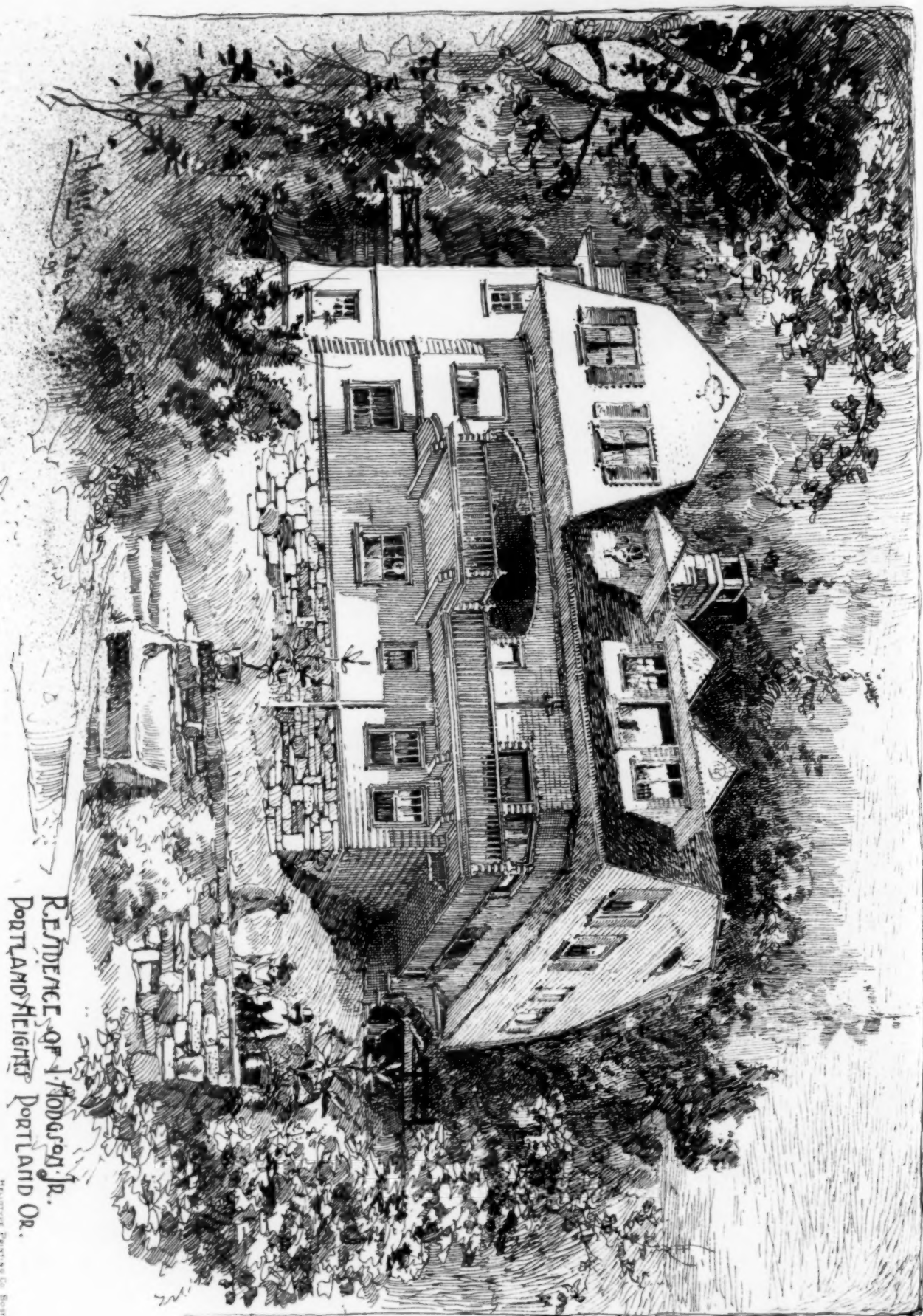
Lamb and Rich Archts.



Hall Corner

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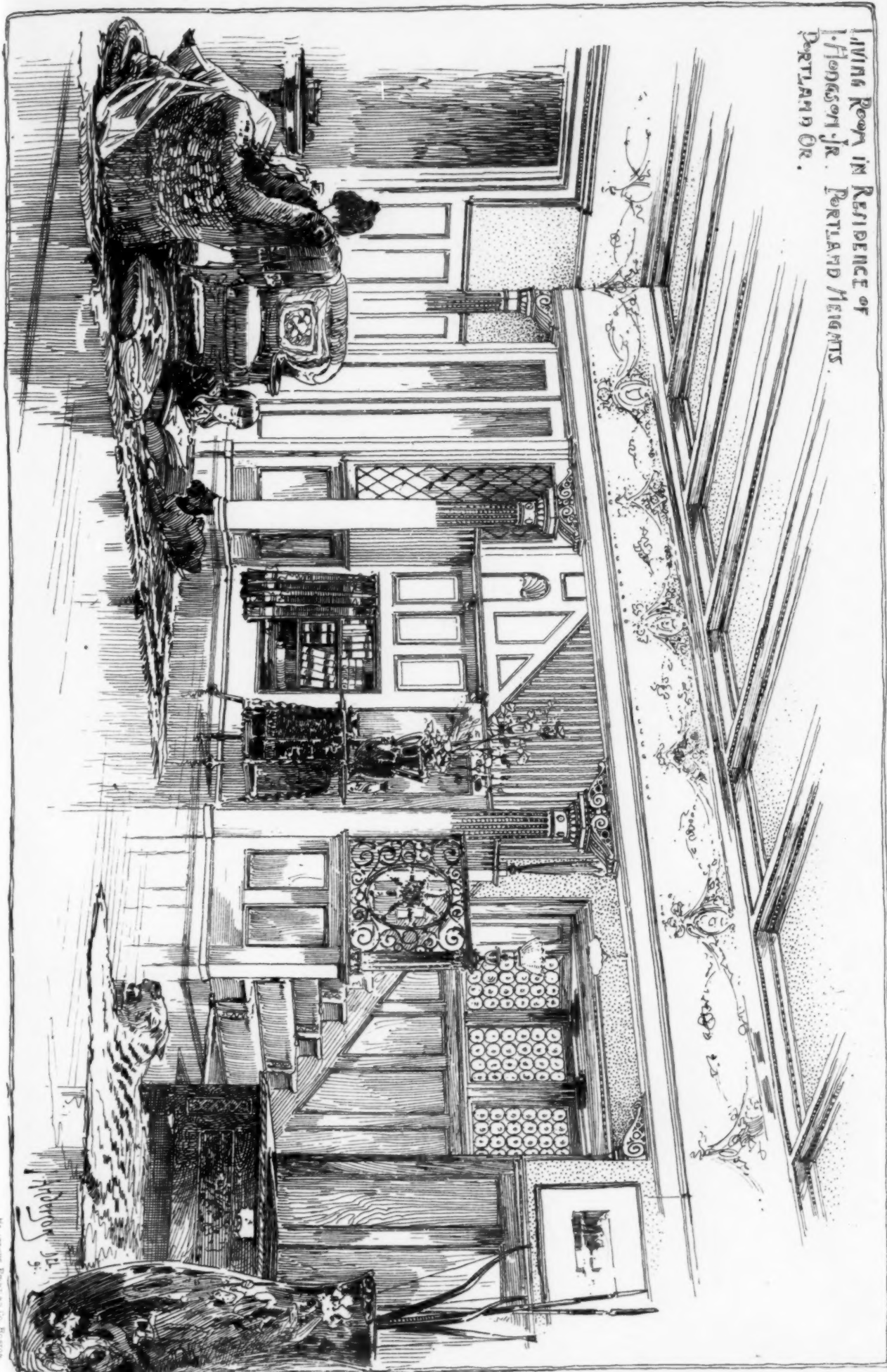




RESIDENCE OF J. HODGSON JR.  
PORTLAND HEIGHTS PORTLAND OR.

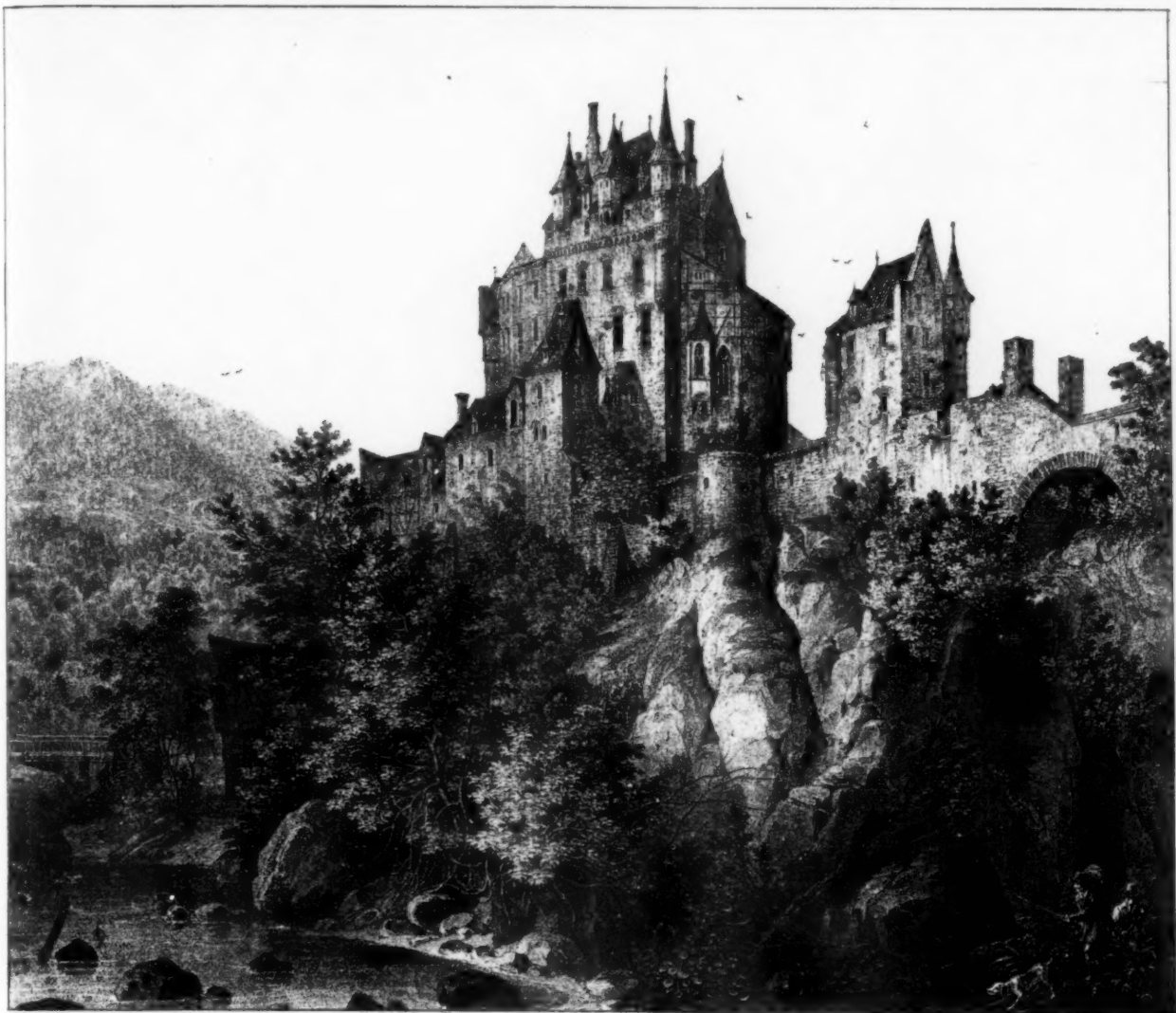
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LIVING ROOM IN RESIDENCE OF  
L. HODGSON JR. PORTLAND HEIGHTS.  
PORTLAND OR.

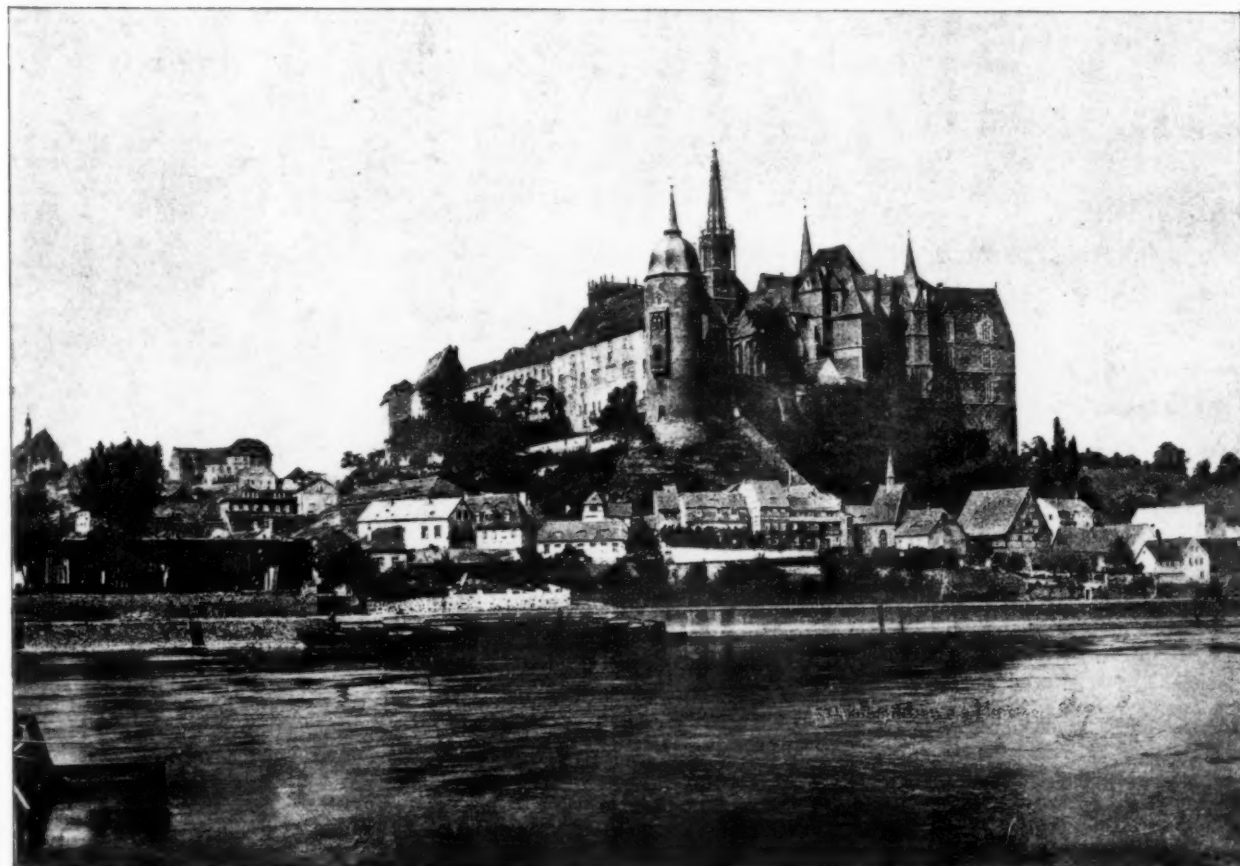




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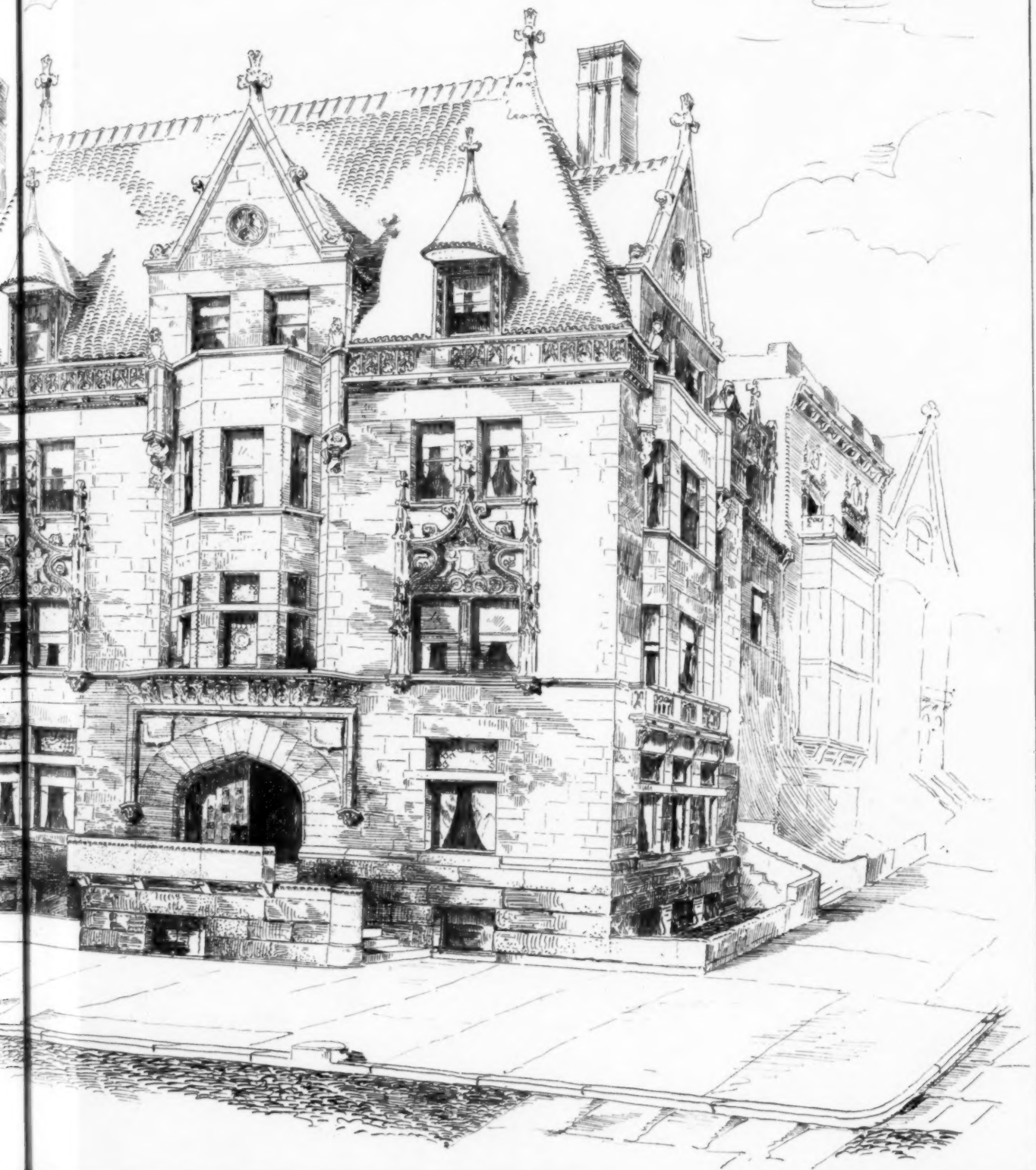
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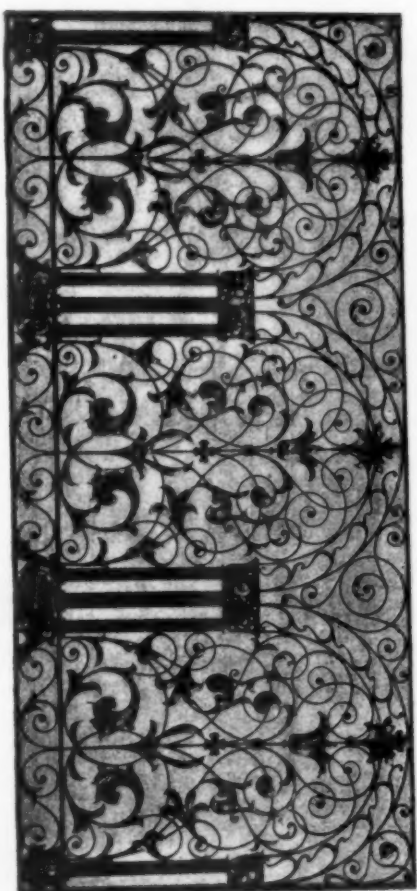
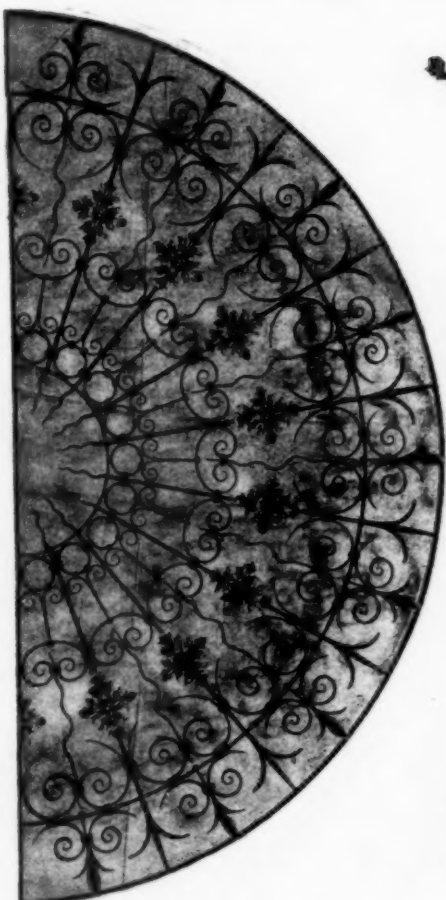
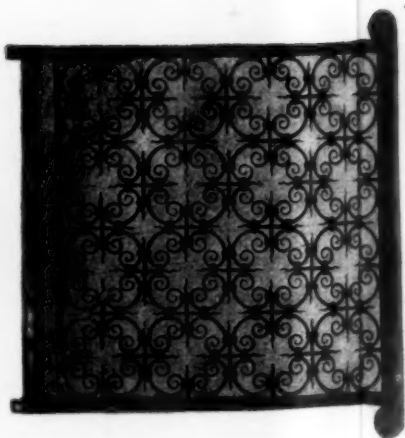
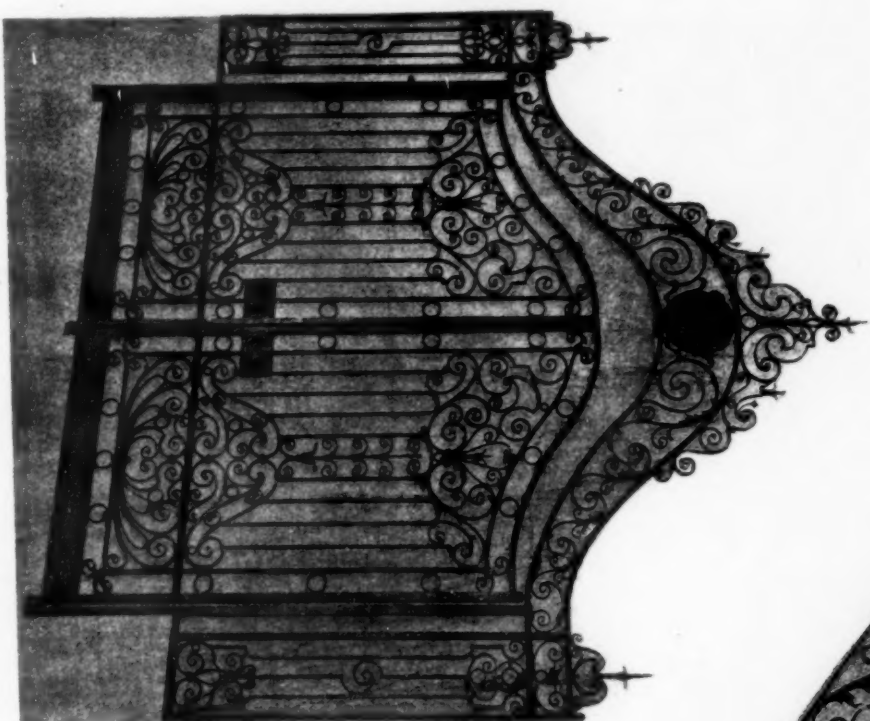


• ALBRECHTSBURG •

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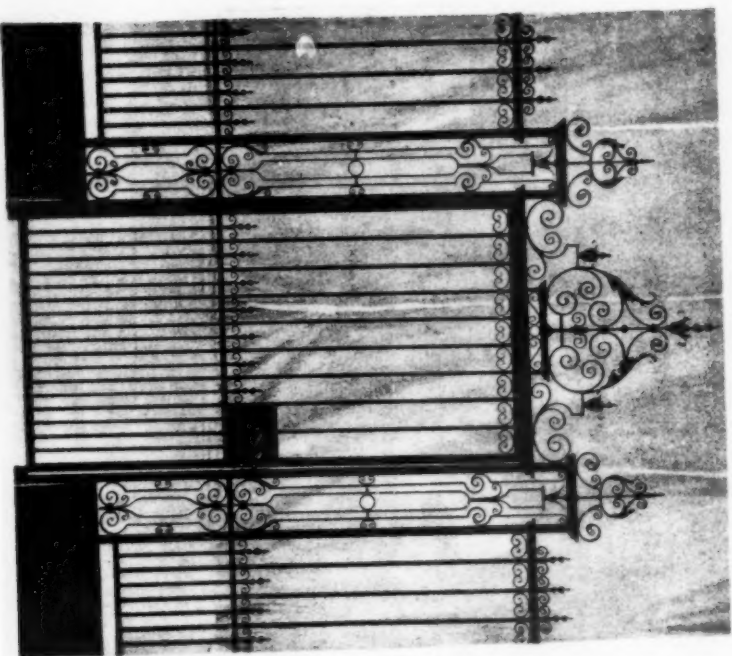
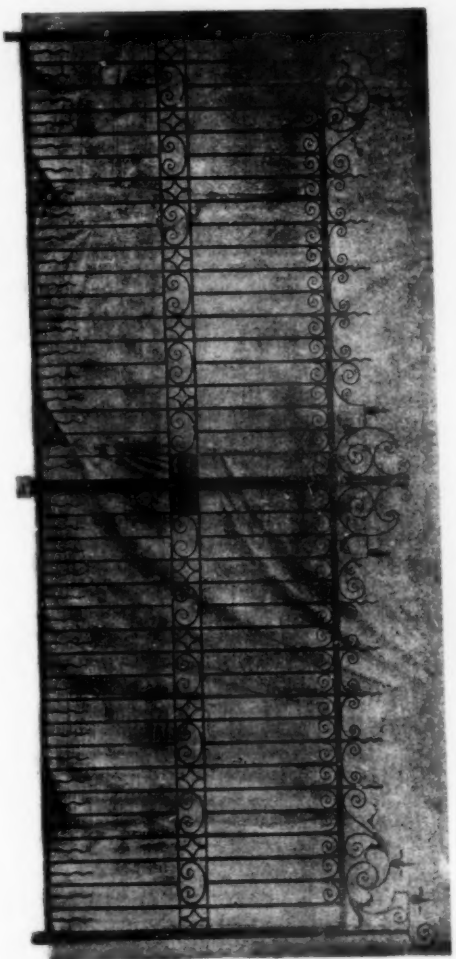




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