

# *Philadelphia's Victorian Architecture*

## *1860-1890*

WE ARE in the habit of thinking of American architecture of the period just after the Civil War as being ugly—one author relates it to “the lowest period of taste.” And of the various parts of our country, Philadelphia had a particularly bad reputation with the art critics. The *Architectural Record*—a journal which first appeared in 1891 with the avowed mission of improving American architecture—had this to say in its prolegomena:

In no country, and at no other time, has mere existence been so full, so abundantly provided for as in this country at the present moment. On the other hand, is there a civilization on the face of the earth as uninteresting as ours, as completely material, as lacking in dignity and distinction, as vulgar, commonplace and shabby? Our self-complaisance is fat and well-fed . . . There is no deficiency of intelligence among our people. It is right feeling that is lacking. It is to Art we must turn—only in that direction does hope for us lie. Art is ‘the fruitful voice of God’; and architecture is the most practical of the arts.

One of the *Record's* methods for improving this art was to publish biting criticisms of what it called “Architectural Aberrations”; in each number a building was pilloried. Some of these were Philadelphia structures. But even when speaking of buildings in other places, our city was used as the absolute zero in discussions of taste. It is needless to add that the critic preferred the safety of anonymity. He had a caustic pen.

Philadelphia, in respect of its commercial architecture, is undoubtedly the most backward and provincial of American cities. It remains true that one of the oldest and richest and most American of American towns is, in its commercial building at least, the crudest and most violent, that Philadelphia is architecturally far more western than the West, and that Chestnut Street has pretentious edifices that would be revolting to the inhabitants of Omaha, and that their authors would be ashamed or afraid to erect in Kansas City. In truth it is evident from the look of Philadelphia that there is no constraint upon the architects, either from professional opinion, which elsewhere keeps designers out of the maddest excesses, or from a lay opinion that betokens an interest that, though ignorant, is willing to be enlightened. What the aspect of commercial Philadelphia does indicate is a complete architectural

apathy on the part of the public and a determination on the part of architects to break in upon that apathy at any cost. One derives from the title of "The Quaker City" a sense of demureness and dull propriety which is exactly antithetical to the rampant loudness that does in fact characterize its conspicuous building. What one would expect to be the tamest of American towns is by far the wildest. The one object that the designers of its commercial palaces evidently have in view is to make sure that their respective buildings shall be noticed.

A peculiarity of Philadelphia architecture is that it is not a species, it has no specimens. What the architects try for being conspicuousness, they try for it by being various, and their success is in proportion to the degree of difference that they attain, not only from themselves and each other, but from the principles of the art of architecture. It is a pathological collection, an assortment of anomalies.

This was the prelude to a castigation of the old "Record" Building. But the critic prefaced his remarks about a Chicago aberration with another compliment to our city. "Our architects still do bad things, Heaven knows, but they are not bad in this way any more. This wild autochthonous architecture one might still expect to find in Helena or Seattle, perchance, or in darkest Philadelphia, which is a kind of palaeontological museum of building, where aboriginal architecture is still cultivated amid the facile plaudits of the population. But to come upon a specimen of it in commercial Chicago is like a glimpse of a prehistoric world."

Such condemnations of late Victorian architecture in general, and of that of Philadelphia in particular, have been widely accepted during the present century. But this verdict has been due, at least in part, to the disdain that every age seems to feel for the old-fashioned forms of an immediately preceding era. A witty Frenchman has said "bad taste is that of the generation before your own." But when two or three generations have passed, interest in discarded styles may reappear. Distance lends enchantment. The Victorian era has now receded far enough for the time to be ripe for a reappraisal of its worth.

All architecture is a vivid expression of the life and times of the people which produce it, and if these times, this life, are different from what went before or came after, the architecture, too, will stand apart as different, though it develops from what was built previously, and in itself carries the seeds of the architecture which is to come. The Victorian era was no exception; its architecture is truly representative of the people, of their aspirations and of their state of culture.

Philadelphia has been four cities, and each has had its distinctive architecture. The last of these is the city of this century, the vast modern city we see about us with its extensive suburbs; and in these suburbs are examples of domestic architecture of the finest quality.

From its founding until 1750 Philadelphia was a colonial trading town, its buildings simple, its sanitary provisions primitive. By 1750 the city had become the most important in the English colonies and from that year to 1830 was a busy intellectual city, boasting such men as Franklin, Bartram and Girard. It was the birthplace of American democracy, of the Declaration of Independence and of the Constitution, and until 1800 the capital of the new republic. Its architecture was Georgian, exquisite, created by amateur architects and skilled mechanics and craftsmen, and supported by the wealthy class.

When the fashions of the Greek Revival were brought from England, professional architects made their appearance, and such still existing works as the Girard Bank on Third Street, the old Custom House, the Merchants Exchange, the old Franklin Institute are testimony of the quality of their work. Again feeling the fashion from England, these architects would now and then do buildings "in the Gothic taste," such as "Sedgley" mansion, the early Masonic Temple, and the former Academy of Natural Sciences at Twelfth and Filbert Streets, all, alas, no more!

With the moving of the capital to Washington in 1800 Philadelphia had begun to lose its importance politically; with the opening of the Erie Canal in 1825 and with the gradual realization of the greater facilities of New York harbor, which resulted in a shift of shipment to that port, it became less important commercially. Many of the leading citizens seemed to take less interest in its development. At the same time, it was becoming the chief manufacturing city of the country. This was significant, since the years of the Victorian period were years of tremendous change—changes due primarily to the Industrial Revolution, which threw out the equilibrium of life's economy as it had been known before; all life was speeded-up, became more material. Almost every human pursuit was industrialized, and nowhere was this more true than in the Quaker City.

In 1850 its citizens were still doing big things. One of these was the consolidation of the city—taking in all the neighboring villages

and towns to the edges of the county. This made possible a fire department to displace the volunteer fire companies that had been the only protection heretofore; a more adequate police force, that was not stopped at arbitrary barriers; and the extension of paving and lighting of streets. Another development was the enlargement of Fairmount Park from the small nucleus at Fairmount and Lemon Hill to approximately its present size. And, perhaps, the greatest achievement was the holding of the Centennial Exposition, arranged by its citizens and financed by them, as the Supreme Court later decided that the money granted by the Federal Government was only a loan.

These were substantial accomplishments at the beginning of the Victorian epoch, just after the close of the Civil War. And to this must be added an unprecedented amount of costly building, both by the municipality, which undertook the erection of the Public Buildings, and by private enterprise. The Academy of the Fine Arts, the Masonic Temple, the Zoological Gardens, seven or eight large bank buildings, twenty to thirty churches and several hospitals were built at this time, and the University of Pennsylvania moved to West Philadelphia and erected four large buildings. There were also numerous residences, town and country, many of pretension. A number of these buildings are still standing, and if one stands at Broad and Arch Streets, he may still see several of them from that vantage point.

There is, for instance, a church at the southeast corner, an example of the Gothic revival. In the seventies there were churches at the two northern corners also, the Lutheran Church of the Holy Communion toward the South being a pronounced example of Victorian Gothic. The Masonic Temple was said by the contemporary guide-books to be "a perfect specimen of Norman Architecture, bold and elaborate." The then new City Hall—the cornerstone was laid in 1874—was called French Renaissance in style. Looking north on Broad to Cherry Street, The Pennsylvania Academy of the Fine Arts—"of Byzantine or Venetian style of architecture"—comes into view. We are apt to think of these as examples of revivals of one sort or another.

They are all, however, of one period—they are all "Victorian"—and except for the exterior treatment or façade dressing they are of

one type of thought as to construction, comfort, the uses of materials, and the satisfying of the needs of the people. The Academy building is certainly the most truly Victorian as to façade composition and choice of exterior materials, but its constructive system is identical with that used in the Masonic Temple and the Public Buildings. There were thick masonry walls (by the nineties exterior walls had become thin screens and are even more so today); the floor construction was of cast- or wrought-iron beams with brick arch segmental vaulting between. The quality of the craftsmanship was the same throughout. Unfortunately, it was not skilful, especially as to stone carving, compared with that of the Georgian buildings, or those of the Greek Revival of the first thirty years of the century. In interior decoration all have similarities which betray the date of execution; the main stairs were still constructed of masonry—that in the Academy and those in the four corner towers of City Hall are superb examples of self-supporting stone structure. There are dados in almost every room, frequently of encaustic tile and sometimes in tilework of bright colors and high glaze; there is much use of ornamented brackets and corbels. In fact, there is a great amount of ornament everywhere, most of it unfortunately big in scale and crude in execution—here the debasement in craftsmanship is very evident. Both the City Hall and the Academy make use of the mansard roof. This was an almost universally used motif of this period, no matter what was the “style” of which the work was said to be an example.

The buildings were all an expression of one type of culture and progress and, naturally, were fundamentally similar. The differences of exterior treatment may be compared to the various headgear of the ladies at a bridge club today. The ladies are congenial, of one class socially and economically; one will wear a snood, one a Lily Daché creation of exotic fruit, one something that recalls the Empress Eugenie, and another a picture hat with a mantilla draped over it—and they are sisters under the skin.

The architecture was as much of a piece as are these women—in fact, we find one architect doing now “Gothic” work, now “classic,” now “French Renaissance”: the names are entirely satisfying to a newspaper reporter and not at all so to an architectural historian. For instance, Addison Hutton, a worthy member of the profession

whose span of life permitted him to enter competitions for the design of the Centennial Exposition and for the present Pennsylvania State Capitol in the nineties, designed the Ridgway Library, a late example of the Greek Revival (1875); and then planned in the next year the central building of the Y.M.C.A. at Fifteenth and Chestnut Streets (where the Packard Building now stands), which was called Gothic, despite its mansard roof. In addition, he designed several houses on Tulpehocken Street near Wayne Avenue, which were built in the eighties and provide good examples of the style we call Queen Anne—one of the movements into which the Victorian period dissolved. The constructive systems of both his Greek and his Gothic buildings were basically similar. There was variation only in certain exterior forms. The shape of the windows and other architectural members, the profiles of the mouldings and the detail of the ornament were taken from different “inspirations”; that is, from different books of plates of past art. For at this time, due to improvement of the lithograph, and of steel and wood engraving, due also to the rapid growth of photography and to the spread of archeological research which furnished material for the publishers to print, architects and the public had at their disposal for the first time a wealth of material documenting the architecture of all past time and many distant places. The public was embarrassingly interested in these evidences of a culture they believed they had acquired and wanted to display. Not infrequently a client when he had to do with building insisted on the introduction of this or that detail to recall a fond memory of his travels.

But this expansion of the knowledge of old architecture came simultaneously with expansion of many other aspects of life. Philadelphia grew up in this period—became a modern city. In 1854 before “consolidation” it was a town extending from the Delaware River to the Schuylkill and from Poplar Street to Carpenter, with a population less than 100,000 souls, surrounded by a number of villages, such as Northern Liberties, Southwark, Germantown, each with its own shops, churches, poorhouses and with its own administration. By consolidation the city became co-terminous with the county; its population in 1860 was 566,000, and by 1870, in spite of the Civil War, this had increased to 674,000; by 1880 it had grown to 847,000 and in 1890 had passed the million mark. This increase was

due partly to immigration, partly to the drawing of people from the country to the city's mills and factories.

The growth in population had an immediate effect on architecture. To the immigrants and the poor were left the older buildings and the poorer sections of the city, while the well-to-do built new quarters, with the latest comforts of life—and these comforts were increasing rapidly with the spread of invention and the increase of wealth. Usually these new homes were further from the center of town, pushing out into West Philadelphia and Germantown and other suburbs. By the end of the century, improvement in means of transportation had accelerated this migration and the wealthy were moving out into districts beyond the city lines.

In 1850 most building construction had been simple, with masonry walls of brick or stone, with wood floors and roofs supported on timber joists and rafters. The buildings in the center of the city were lighted by gas. Fires were frequent, and the problem of fire-proof construction was therefore a pressing one.

Philadelphia was in advance of the country in general in its supply of water piped to the houses; it came from a Schuylkill that was much purer than the present river. The bathroom was growing in popularity and in use. In 1850 many houses were without these conveniences, but the subsequent progress of plumbing was as great as that of industrialization. At mid-century the streets of the city's center were paved with brick or with cobblestones; those in the outlying sections were macadamized, or were dirt roads. The main streets were lighted by gas lamps, only recently installed. However, an electric light had been exhibited at the Centennial, and in 1881 arc lights were first used on Chestnut Street. All travel was by horse-drawn vehicles. Horse-drawn tramcars started to operate in 1858. The first electric trolley cars were put in operation on Catharine and Bainbridge Streets in 1892. Railroads were chartered in the thirties and rapidly grew in influence and in financial importance.

Between the fifties and the nineties there were other epochal changes in the economy of the city, and all of these were reflected in its architecture. Almost everybody in America was inventing, and many of the inventions were good. The telephone was first shown at the Centennial—by 1890 the streets in the central area were lined with poles carrying a mass of wires. Plumbing fixtures became more

adequate and ever more used, which meant underground piping in every street, and complicated piping concealed in the wall and floor construction of buildings. The electric light first used in John Wanamaker's Grand Depot in 1876 added new conveniences and comfort, and made more complication in buildings, as did the invention of steam heating and later of hot-water heating. The invention of the elevator, coupled with improvement in the manufacture of iron and steel and the increase in the knowledge of its potentialities brought about a complete change in methods of building. New types of high buildings, with steel skeletons, rose to house this vastly more complicated society. Provision had to be made within them for a maze of wires and pipes and tubes and ducts that had been completely unthought of in the first years of the century.

All of the experimentation that was necessary to the digestion of these new forces took place during the Victorian era. These years witnessed a change from a handicraft age to an industrial age. It is understandable that much of the work was not distinguished artistically. But, as always, some examples stand out as better than the average; and as years pass we find qualities heralding our present conceptions of architectural form in buildings formerly dismissed as queer, or barbarous, or worse.

There follows a list of architects and of architecture in the period after the Centennial. It is only a part of the story, for this was a time when there was a fever of building and a list of all the building undertaken in these years fills large volumes of records in City Hall. Almost no mention has been made of domestic work, because to cover it adequately would very much complicate the story, and a few examples would not give a true picture of either the good points or the bad. The descriptive comments are from contemporary accounts in guidebooks, magazines or newspapers:

THOMAS U. WALTER

Girard College, Main Building, 1847. He designed the iron dome of the Capitol at Washington, and on his retirement from his work at Washington assisted McArthur on the City Hall, and did much of its detailing.

JOHN McARTHUR, JR.

The Girard House, 1850.

Continental Hotel (where the Benjamin Franklin now stands), 1860.



City Hall, or Public Buildings, 1874-1894; Alexander Calder was the collaborating sculptor: neither had sufficient ability for this great opportunity. In 1919 more than twenty tons of iron ornaments were removed from the cornices on the four sides of the building.

#### JOHN NOTMAN

The Atheneum, Sixth and Walnut, 1847.

St. Mark's Church, Locust Street. "The finest specimen of Gothic architecture to be found in this City" (Fiske Kimball), 1849.

St. Clements Church, Twentieth and Cherry Streets, 1859.

#### JAMES H. WINDRIM

Masonic Temple, 1873.

The Academy of Natural Sciences, Nineteenth and Race Streets, "in the Collegiate Gothic style," 1876. This building has since been extended and refaced, but not improved.

Girard College dormitories, Gothic buildings to accompany Walter's masterpiece of the Classic Revival, *c.* 1870-90.

Agricultural Hall, at the Centennial. "Its interior appearance resembles that of a great cathedral; the vista is extremely imposing." (An illegitimate child of Romanticism—an inane form of Victorian Gothic—Kimball.)

FRANK FURNESS (First practicing with Hewitt, later as Furness, Evans & Co. The pieces here listed all show his hand unmistakably.)

Rodeph Shalom Synagogue, Broad & Mt. Vernon Streets, 1870. This "very large building of striking architectural appearance in the Saracenic style" has been replaced by one less colorful.

The Academy of the Fine Arts, Broad and Cherry Streets, 1872.

Pachyderm House, Zoo, 1873. Its structure was not adequate for such heavy beasts; it has been replaced.

Guarantee Safe Deposit and Trust Co., 320 Chestnut Street, "a large solidly-built and odd looking building; the style of architecture is Venetian," 1875.

First Unitarian Church, Twenty-second and Chestnut Streets, 1884.

Broad Street Station, completion 1892-1894.

#### JOHN CRUMP

The Union League; "this ornate structure of red brick and brown stone exhibits the florid taste typical of the Victorian era; it presents an air of comfort and taste attractive to the stranger," 1865.

#### NAPOLÉON LE BRUN

Academy of Music. "The exterior of the building gives no idea of the elegance of the interior," 1857.

The Cathedral of St. Peter and St. Paul, Logan Square, "Roman Corinthian in style," 1846-1863.

T. W. RICHARDS

The original University of Pennsylvania buildings in West Philadelphia, "in collegiate Gothic style," but with mansard roofs, 1871-1874.

Richards lectured on architecture in the college.

THEOPHILUS P. CHANDLER. Chandler organized the Department of Architecture at the University of Pennsylvania, 1891.

Second Presbyterian Church, Twenty-first and Walnut Streets, "of stone of various colors," 1872.

Penn Mutual Life Building, 921 Chestnut Street; "carvings, touches in window-sills, conceits in balustrades and other indications of an artist's skill will lend grace to the dignity of the tower," 1889. Since removed.

G. W. AND W. D. HEWITT

The Bullitt Building (now disappearing), *c.* 1887.

The Bourse, *c.* 1891.

St. Martins in the Fields, *c.* 1883.

Many Houston houses.

Antelope House, Zoo, 1879.

The Bellevue Stratford Hotel, *c.* 1896.

ADDISON HUTTON

Philadelphia Saving Fund Society: "of granite, it presents a solid appearance," *c.* 1872.

Ridgway Library, 1876.

STRICKLAND KNEASS (Engineer)

Chestnut Street Bridge, "built of stone and iron, of graceful proportions," 1866.

THOMAS C. CLARK (Engineer)

Girard Avenue Bridge. "It embraced and introduced for the first time some of the latest improvements in engineering," 1874.

HERMAN J. SCHWARZMANN

Memorial Hall. "The design in modern Renaissance," 1876.

Horticultural Hall, "in the Moresque style of architecture of the twelfth century," 1876.

Plan of the Zoo grounds, 1873.

## HENRY A. AND B. P. SIMS

Accepted plan for the Centennial Exhibition, 1876 (subsequently modified).

Llewellyn Drug Store, Chestnut Street, above Fifteenth, 1876.

## WILSON BROTHERS

First part of Broad Street Station (Arthur Truscott, later head of the Department of Architecture at Drexel Institute, designer), 1883.

Reading Terminal (with F. H. Kimball, architect of New York), 1893.

## WILLIS G. HALE

Record Building, Chestnut Street above Ninth (now demolished), 1881.

Hale Building, Chestnut and Juniper Streets, 1884.

Union Trust Co., 713-721 Chestnut Street (only a portion remains), 1884.

Hale designed the trolley cars manufactured by Brill.

## A. B. MULLETT (supervising architect of the Treasury)

The Central Post Office and Court House, 1884 (recently replaced by a new building).

## WILL H. DECKER

The Betz Building, 1891. The first Philadelphia skyscraper, on part of the site of Wanamaker's Men's Store.

Manhattan Building, Fourth & Walnut Streets.

## UNKNOWN (Kiralffy Brothers, promoters)

The Alhambra (later known as the Broad Street Theatre), *c.* 1875.

## WILLIAM PRICE

Jacob Reed's Store, 1891.

## ISAAC HOBBS AND SONS

Designers of "Country villas, Cottages and Other Edifices," *c.* 1873-1883.

## CHARLES M. BURNS

Memorial Church of the Advocate, Eighteenth and Diamond Streets, 1886-1891.

Church of the Annunciation, Twelfth and Diamond Streets, *c.* 1885.

This is a representative list of a small part of the Philadelphia building of the Victorian period. In general it is preoccupied with efforts to build fireproof buildings, and to incorporate the numerous mechanical devices that are necessary for the comforts to which we have become accustomed.

The forms of this architecture are eclectic—evolved from a study, usually not very scholarly, of the works of past times. However, there was some discontent with this use of past forms. As James Fergusson, the English architectural historian, phrased it in 1862: "There are two forms of architecture, that before the Italian Renaissance, which was creative, and that which came after, which was imitative." This is, of course untrue; it is the loose thinking of a man untrained in the field he is discussing and has reference only to superficial details, but it received wide approval from great numbers of the intellectuals who are deeply stirred by half-truths. The buildings being erected were solving problems completely new, by constructive means that were changing slowly, but profoundly and inevitably.

It is true the forms of architectural elements employed recalled previous architecture—just as Shakespeare and Molière used as plots stories taken from Boccaccio, changing them to suit their convenience. Boccaccio in turn had taken these stories from earlier men, who no doubt had done likewise.

As early as 1851 Viollet-le-Duc, French archaeologist, in his various writings on architectural theory, had asked for a new architecture, a rational expression of constructive means; but as he used the French work of the twelfth and thirteenth centuries to illustrate his arguments for this logical expression, the net result was an increase of Gothic motifs in the years following. For his writings are stimulating to read, and to look at—illustrated as they are by clever perspective drawings of medieval details of construction and life.

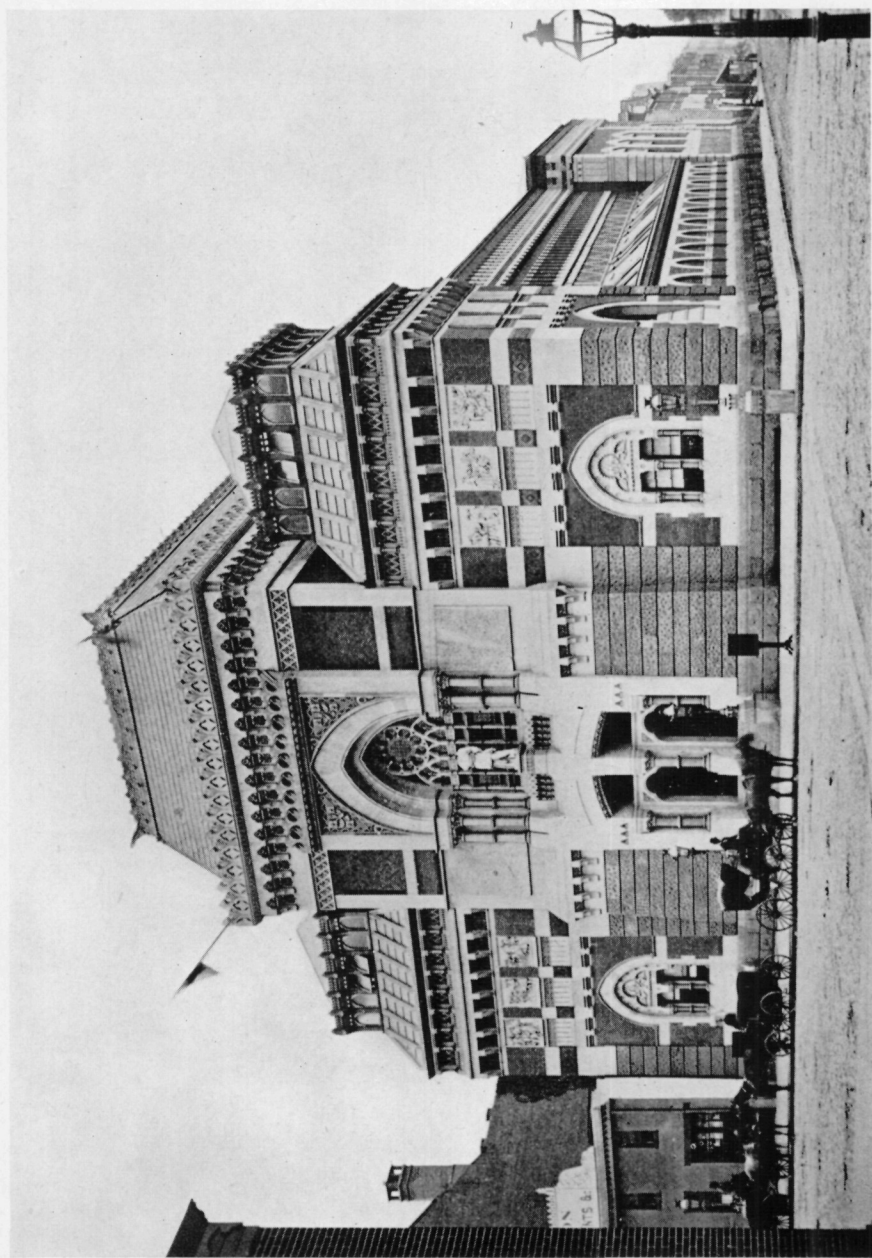
Still earlier, John Ruskin, in his *Seven Lamps of Architecture*, published in 1849, and in his *Stones of Venice* (1851), while urging a return to the methods as well as the forms of the Middle Ages, had asked for a new style consistent with the life of the time. He wanted the construction to be as honest as Gothic construction, the composition as free as that of the Middle Ages, the ornament based on natural forms. As inspiration he suggested the Venetian Gothic.

And it is possible to trace to his suggestions the polychromy of Victorian Gothic—the use of many materials of varying colors in one façade—as well as the exuberant use of ornament, and such characteristic motifs as the stumpy columns with large capitals.

Unfortunately, much of his reasoning in urging these things was on the grounds of morals, a matter entirely irrelevant to art. Ruskin was not an architect, nor an artist; he had no real understanding of the problems of architecture. But his eloquent writing had a tremendous influence, especially among the cultured and well-to-do, and it is precisely this class that furnished clients for the architects. It can easily be understood that writers with an architectural training objected to many of his theories. Viollet-le-Duc wrote: "It matters little to us that a grille has closed a Chamber of Tortures, if the grille be well designed and the iron well forged . . . a building is not fanatical, oppressive; a parliament may condemn unhappy Jews and sorcerers to be burned alive, but the hall in which it sits may be a structure that is more appropriate and better built than that in which our magistrates apply wise laws with an enlightened spirit."

The demand for originality was also heard in Philadelphia. In November, 1868, the *Architectural Review and American Builders Journal*, published here, carried an article headed "An American Style," asking for originality and adventure. "Our architects," it declared, "are, at best, but mere copyists of European models, mere re-producers of other men's ideals, formed for other purpose than those we have to deal with, here in America. . . . A name as lasting as the Egyptian Pyramids awaits him, who initiates an American style of architecture, truly national, and worthy of our history, with its Orders all complete."

This challenge was taken up by one of the Philadelphia architects, Frank Furness, the one who was responsible for the best architecture of the period—the one whose work had most influence on the architecture of today. It is true he did some of the worst also, for his effort varies much in quality; but it was never commonplace, it was always daring and it is this daring that at times was disastrous in taste. Furness' work is original, independent in conception, and in it may be found the germs of much contemporary architectural thought. His work had unquestionably his personality, a forceful one.



The Pennsylvania Academy of the Fine Arts. Victorian Gothic at its Philadelphia best.



The Guarantee Trust Company: a polychrome design showing the influence of Ruskin and Viollet-le-Duc.

Furness had very little training; at the time he should have been an apprentice in an architect's office he was fighting in the Civil War, rising ultimately to the rank of captain of cavalry, and for great bravery on the field he was awarded the Congressional Medal of Honor. At the completion of the war, being then twenty-seven years old, he became a student in the atelier in New York of Richard M. Hunt, first American graduate of the *École des Beaux Arts* in Paris, the first American to have a proper training for the profession. But, no doubt because of what he must have considered his advanced age for being a student, Furness opened his own office in this city after no more than a year's training. It is remarkable he did so well with such a meagre preparation.

His early buildings were typically Victorian—his façades were polychromatic, the color effects achieved by the use of a wide variety of materials. This Victorian interest in polychromy was due partly to the discoveries of color in antique buildings at Paestum and Pompeii, and partly to Ruskin's glowing descriptions of the colorful Venetian architecture.

In the Guarantee Trust and Safe Deposit Company (now the Tradesmen's Trust Company) the exterior is made of brick, pink granite, gray sandstone, bluestone, black slate, glazed Minton tiles having a pattern of blue on a white ground, red terra cotta, and bluish roof slate; with crestings, grilles and hinges of ironwork, and with gilded clock dial and wind direction indicator. This indicator was motivated by a wind vane on the roof. And it may be well to say that the brick had that mechanical perfection of shape, uniformity of color, and smoothness of surface, and was laid with that fineness of jointing the Victorian architects considered proper as an expression of the machine age. All these colors must have been startling when new—as startling as the Parthenon no doubt was when its touches of bright red and blue paint contrasted with the new white marble. But time grays all things, especially in a manufacturing city, and today one has to search for these evidences of an age with a brighter taste than ours.

Inside, the large banking room is a very well-realized composition in space. It, too, was originally brilliant; the walls were lined with encaustic tiles of two tones of tan, with a base and a frieze of glazed Minton tiling. All these have since been covered with dull gray



stucco; cashiers and clerks, coping with the rush and bustle of modern business transactions, could not stand the added excitement of such a background. The floor remains, a vivid pattern of reds, blacks and tans in tile work, and many of the tiles are patterned. And the shapely vault is unchanged, a frank and successful expression of the structural method of spanning this space.

The Academy of the Fine Arts was also at one time more vivid. There was an attempt here to use sculpture as decoration, but the sculptor was unequal to the occasion. The antique marble figure of Ceres, brought from Greece and installed over the portal, made a successful composition, and gave Furness a justification for cutting an arch in the middle, a favorite motif with him. The carved stone decoration is typical of his work; it is naturalistic, drawn full size by Furness himself, using sketches made on jaunts to the country, large in scale, without sculptural quality except now and then and perhaps accidentally, and carved unskillfully by the poor craftsmen of the time. Evident also in all Furness' works is the use of incised decoration, a manner of ornamentation introduced by Sir John Soane early in the century and very widely used in Victorian times.

Furness was fond of half arches, of banded stumpy columns with heavy, carved capitals, of corbels supporting bearing members. His aim was to be original; he refused to "copy" architecture from books. But he could not escape his times. All the odd arrangements he resorted to, even the half arches "going upstairs" of the B and O Station and the half arch bisecting a half turret of what is now the Clearing House, may be found in the *Dictionary of the Architecture of the Middle Ages* of Viollet-le-Duc. His use of them is fresh and unstudied, sometimes awkward, but at some time they had entered his consciousness, to emerge after a period of gestation in his head. In passing it might be worth noting that Furness owned a copy of Viollet-le-Duc's *Dictionary*; it was one of the few books on architecture he admired.

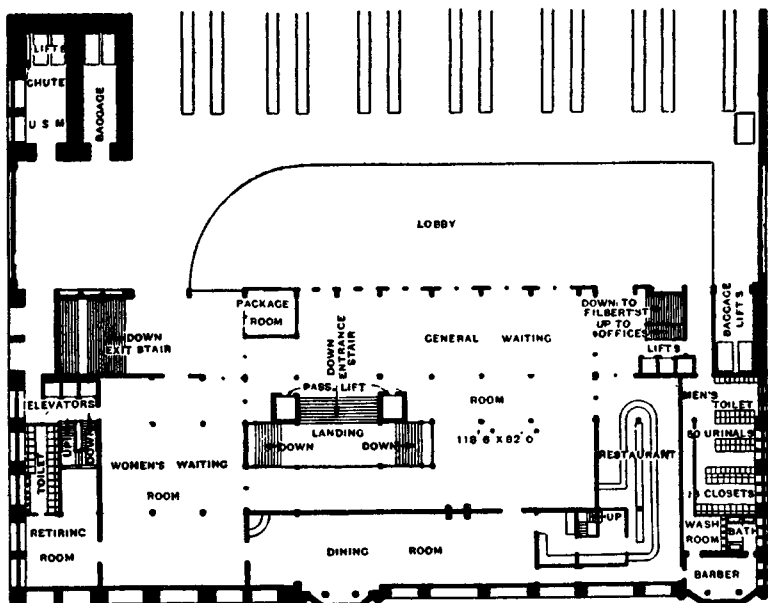
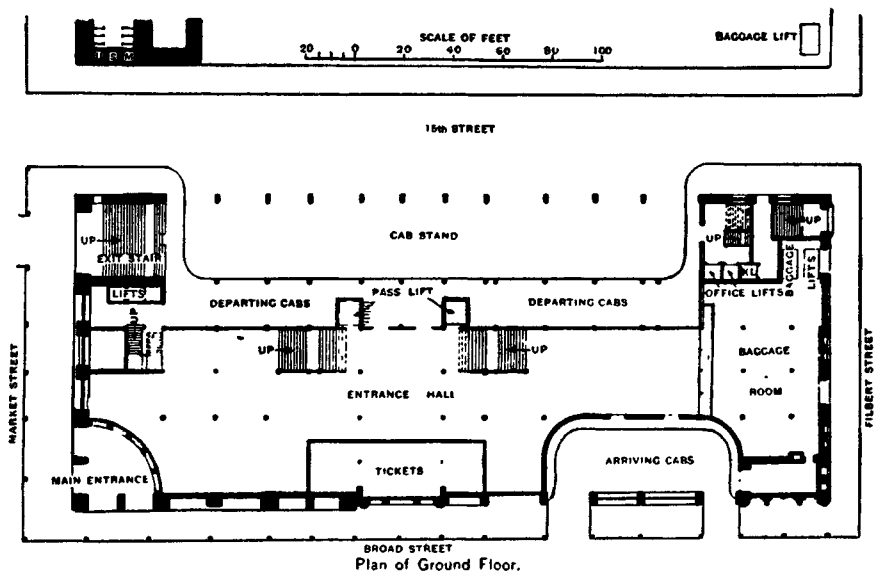
All these buildings were "fireproof" as that term was then understood. They were the first such buildings in Philadelphia. In that day, before the Baltimore fire, it was not known that iron would lose its shape in a hot fire, consequently the iron members were left exposed, freely expressing their function. Today they must all be hidden by a sheathing of protective masonry. Furness not only built

with fireproof materials: he invented and patented a system of long-span concrete floor construction, and a membered and bolted cast-iron column. He also invented the "interlocking rubber tile floor" so familiar forty years ago on ferry-boats and in railroad stations. In addition, he invented and used a wood truss made up of boards, two inches thick, spiked together, a new form of an idea used in the sixteenth century. Today, due to the scarcity of steel for building, this idea has been resurrected and is being used in much of the war building.

When Furness was awarded the commission in 1892 to enlarge Broad Street Station to four times its original size, he used the same materials employed in the earlier part, and carried through the same horizontal band-courses. Few passersby notice that the building was not done by one hand and at one time, and yet part of the exterior envelope is typical "Furness" architecture, while the original portion is a correct Early English Gothic. Here Furness had the collaboration of a good sculptor, Karl Bitter, whose work was of such quality that some of it has been taken down and reinstalled in the new Thirtieth Street Station.

But it is the plan that is remarkable here, for it is very much the type of composition attempted today by architects of what is called the "International School." It has "flowing space"; there is no symmetry, no use of architectural "axes." The planning is purely functional—that is to say, dictated by use; and it proved excellent for railroad use even in the busy twenties. It cared for the arrival and the departure of passengers without the one interfering with the other, and for all the details of tickets and baggage and hurried meals. That this station is to be given up is because Philadelphia is no longer to be a terminal, but only a way station.

This station had another detail that was a foretaste of the work of the International School—the piers in large rooms have mouldings on the two sides parallel to a near wall, the same mouldings as on the wall, while the other two sides are sheer, without mouldings. A similar treatment may be found in the piers of the large banking room on the second floor of the recent Philadelphia Saving Fund Society Building at 12 South Twelfth Street—the sides parallel to the dark gray wall are of dark gray marble; the other two sides are of white marble. The architect of this building, George Howe,



NEW PASSENGER STATION AT BROAD STREET, PHILADELPHIA—PENNSYLVANIA RAILROAD.

has explained that the pier is considered simply a piece of the wall moved out.

As early as 1860 a "steam carriage" designed as a road tractor was experimentally successful, and an improved model was shown as a farm-aid at the Centennial. In 1872 at the Academy of Music the first "motion pictures," those of Eadweard Muybridge, were thrown upon a screen before an audience. In 1875 Professor Edwin J. Houston of the Central High School of this city made the first wireless apparatus in the world, a very primitive affair. Fifty years later all these inventions had been perfected, were commercially successful, and were changing the world.

In the architecture of the Victorian period, especially in America, tentative experiments were being made in construction and in theory that, likewise, fifty years later, had come to fruition and were affecting architectural thought. Some of this work was done in Philadelphia, in the "wild" and "crude" buildings that shocked those of tender taste. Frank Furness was the ablest of these experimenters, these pioneers.

A later and greater pioneer, and one with a much better education, Louis Sullivan, center of the "Chicago School," and the one to whom we owe the plastic form of the skyscraper, spent the most impressionable year of his training in the office of Frank Furness and there gained "courage to believe that anything was possible to the architect who willed it." He admired Furness because he "made buildings out of his head"—when no one else was doing so—and as a remarkable freehand draftsman. In his autobiography Sullivan "gives thanks that it was his great good fortune to have made his entry into the practical world in an office where standards were so high; where talent was so manifestly taken for granted, and the atmosphere the free and easy one of a true workshop savoring of the guild where craftsmanship was paramount and personal." Frank Lloyd Wright, another originator of contemporary conceptions, whose work and theory very greatly influenced European architectural thought in the early years of this century, was a pupil of Sullivan.

Frank Furness may thus be considered as the architectural godfather of Louis Sullivan, the spiritual grandfather of Frank Lloyd Wright and of the so-called International movement in architecture.