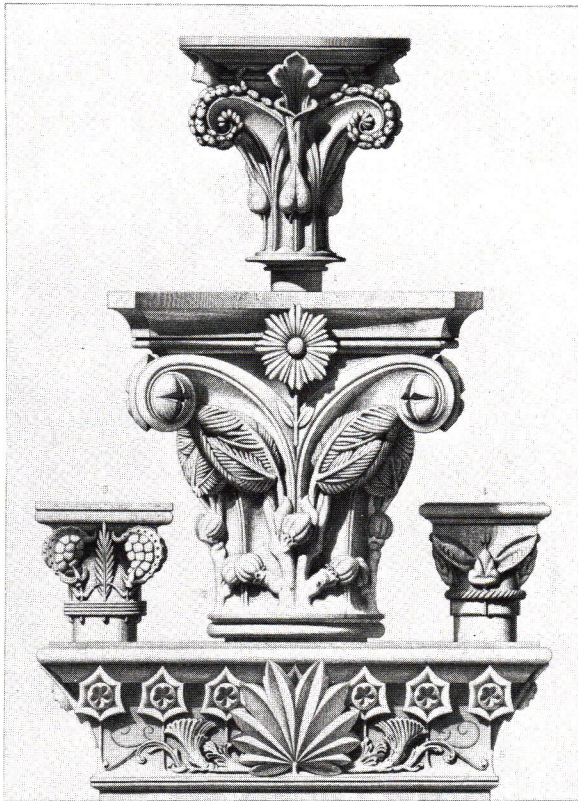


The
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Review

Volume XI, Number 4

Fourth Quarter, 1974

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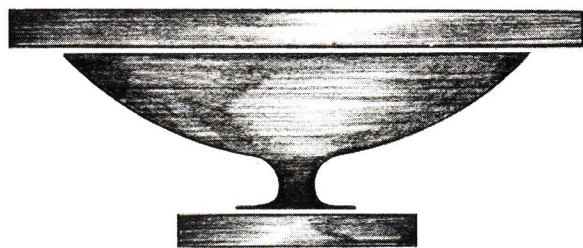
*Ruprich-Robert tried to evolve original capitals based upon nature but expressively designed. They are the artistic ancestors of the capitals of the Guaranty building, Buffalo. *Flore ornementale*.*

COVER:

Bud and exploding seed-pod motifs combined in a frieze from the Kehilath Anshe Ma'ariv Synagogue (1890-91). Library of Congress.

*Unless otherwise indicated, all of the drawings in this issue are from *Flore ornementale, essai sur la composition, elements tire de la nature, principes de leur application*, by Victore M. C. Ruprich-Robert. The copy used for these illustrations was kindly loaned to the publishers by the Library of The American Institute of Architects.*

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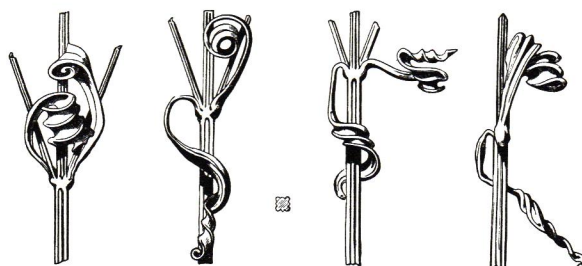
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*Dry lavender used as ornament by Ruprich-Robert. Flore
ornamentale.*

From the EDITORS

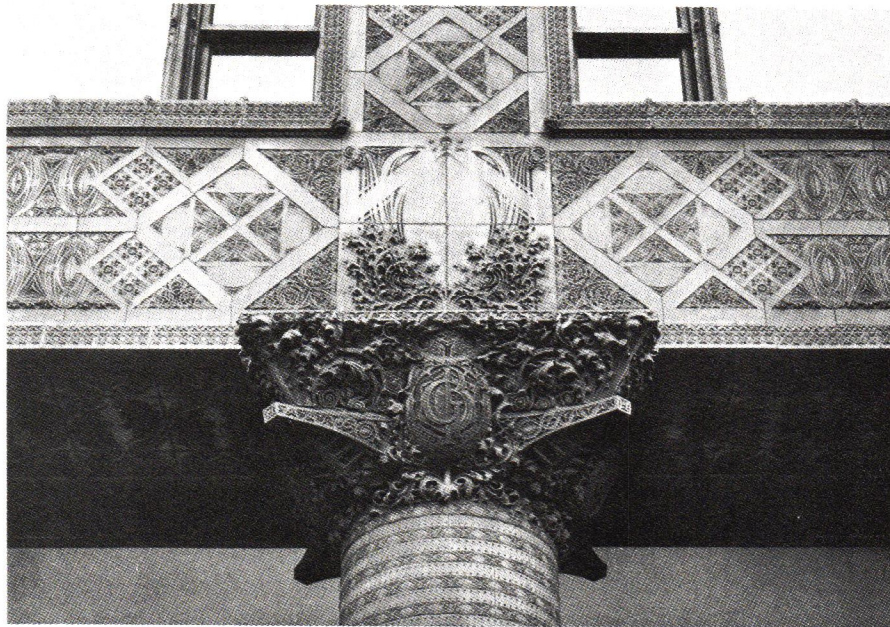
Several times in the past we have commented here on the status of restoration and/or preservation architecture. Many times the tone of our remarks has been highly critical of the atmosphere surrounding programs or suggestions that this type of professional practice deserves greater attention in our architectural schools. It is interesting to note that restoration and preservation are beginning to receive more and more attention and that while it will take some time for full fledged programs to produce the practitioners needed, they are on the way. In the meantime, there are some other encouraging sights on the scene.

*We are pleased to see the number of publications now devoted to some type of restoration of older buildings. The National Trust for Historic Preservation has been around for a long time with its **Preservation News**, and its redesigned quarterly journal **Historic Preservation** is better than ever. Of course, **The Society of Architectural Historians Journal** and its companion **SAH Newsletter** still are the grandparents of all the publications of this type. Newest is **Nineteenth Century** published by The Victorian Society of America. These all perform an important function in keeping their members aware of the value of our heritage and in formulating basic policy ideas for us. There is, however, another kind of publication we like better.*

*The oldest of these other publications is probably The Association of Preservation Technology's **APT Journal**. Begun about five years ago, it has steadily become more and more useful to the restoration architect. New York City's **Brownstoner**, published largely for the New Yorker who aspires to a gracious style of living, is another valuable publication for the layman and professional alike. For really good information which can often be used immediately, we cast our vote for Clem Levine's **Old House Journal**. This relatively unsophisticated Newsletter type of publication has managed to gain an exceptionally wide circulation in the short time it has been published. Every issue contains information of value to owners, architects and craftsmen. The brief articles are usually of the how-to nature, but with minor adaptation can be used by specification writers to prepare very acceptable contract documents. Furthermore, the product data contained in every issue is a gold mine for all concerned. We don't know the publisher personally but we certainly wish him luck and suggest that our readers would be well advised to seek out his fine source of information.*

Elsewhere in this issue we have published the addresses of all the publications mentioned on this page. There must be others — tell us about them.

*Capital, the Guaranty building,
Buffalo, 1894-5.*



French and English Sources of Sullivan's Ornament and Doctrine

by Theodore Turak

Dr. Theodore Turak at American University has just completed study in Paris on the sources of Sullivan's ornament. He has previously written on Sullivan's Russian Orthodox Church and William Le Baron Jenney for The Prairie School Review. Dr. Turak earned his doctorate at the University of Michigan.

For a long time ornament has been an almost forbidden word to architectural critics and historians. Those educated in the shadow of the *Bauhaus* were reacting to the excesses of late nineteenth and early twentieth century building. Thus Robb and Garrison wrote that the "florid ornament" of Louis Sullivan's Carson, Pirie and Scott building was his "... personal delight and architectural weakness."¹ Even Hugh Morrison was semi-apologetic hoping that this element of Sullivan's art would one day be more appreciated.² This reaction has occurred. The sterility of today's glass business houses has caused a reconsideration by some of the use of ornament in architecture.

The reappraisal of such Victorians as Frank Furness has opened the door to an investigation of the ornament of that often justly maligned epoch. Too often the decoration of the nineteenth century has been dismissed as parvenu. Yet a consideration of such monuments as the Bibliothèque Ste. Gen-

viève in Paris will reveal a degree of subtlety and sensitivity. Louis Sullivan's ornament is most probably the end product of a century of thought concerning the relationship of ornament and architecture. This article cannot establish Sullivan's exact place in that evolution, but it will attempt to offer insight into the possible sources of his work and hopefully help establish a basis for the further study of Victorian ornament.

James O'Gorman, in his recent monograph on Frank Furness, noted Sullivan's indebtedness to the Philadelphia architect and through him to Owen Jones and the French ornamentalist Ruprich-Robert.³ The latter was also known to William Le Baron

¹ David Robb and J.J. Garrison, *Art in the Western World*, New York, 1963, p. 235.

² Hugh Morrison, *Louis Sullivan, Prophet of Modern Architecture*, New York, 1965, p. 201.

³ James F. O'Gorman, *The Architecture of Frank Furness*, Philadelphia, 1973. Mr. O'Gorman writes, "Furness links Sullivan to Jones (and Ruprich-Robert), and so is a key factor in that progression that led ultimately to the search by Sullivan's own protégé for geometric principles in nature. The result was the totally abstract frieze of Wright's Coonley house in 1908, or the abstract tree that was the basis for the design for the entire Johnson Wax Tower of 1947-50. Wright's theory of organic architecture was in part an outgrowth of this nineteenth-century process of abstraction from nature." pp. 36-38. One might add that William Lee Baron Jenney was an important link in this process.

Jenney for whom Sullivan worked from November 1873 to July 1874.⁴ Ruprich-Robert had been one of several authors ordered for the library of the University of Michigan when Jenney organized that institution's first school of architecture in 1876.⁵ It is interesting that he should have been considered important by both of Sullivan's principal mentors.

Some of the books Jenney requested were a book on perspective by Piezzo, two volumes of Palladio (published 1721), *Ruskin's Seven Lamps of Architecture* (Jenney specified that the copy be J. R. Osgood's edition because of its superior illustrations), Ferguson's *Handbook of Architecture*, the same author's *History of Architecture*, volumes I through IV and Viollet le Duc's *Entretiens sur l'architecture*, volume I (the second volume had not yet been translated by van Brunt). In his *Principles and Practice of Architecture* published in 1869 he also mentioned Owen Jones' *Grammar of Ornament* (1856), Edward Lacy Garbett's *Rudimentary Treatise on the Principles of Design* (1850), and Viollet-le-Duc's *Dictionnaire raisonne*. Frank Lloyd Wright's claim that he introduced Owen Jones' book to Sullivan therefore seems dubious.⁶ Since Jones' book was part of the general architectural milieu of the nineteenth century, it is probable that all architects, including Sullivan, knew of it either directly or indirectly.

Several other books were ordered by Jenney for the University of Michigan Library. These were, *Art Foliage* by J. V. Colling, *Plants, Their Natural Growth Treatment* by F. Haluse, *Principles of Ornamental Art* by Edward Hulme, *Free Hand Ornaments* by Leo Lesser and *Flore ornementale* by Ruprich-Robert. I have been unable to locate the books by Haluse and Lesser, but the others, Colling, Hulme and Ruprich-Robert, are still in the library of the University of Michigan. These books, with a consideration of Garbett's *Treatise* . . . should help to throw light on the possible origins of Sullivan's ornament and the philosophy behind it.

Monsieur Victor Marie Charles Ruprich-Robert was *Professeur de Composition et d'Histoire de l'ornement* at the *École impériale et spéciale de dessin* and it was from his courses that he drew material for his book. The edition at the University of Michigan

was dated 1876,⁷ but Jenney's letter to President Angell of the University noted an 1866 date for the volume. The frontis to the illustrations also bears an 1866 date. One can therefore assume that Major Jenney may have known of the work as early as 1867 and that it might well have been in his atelier when Sullivan worked for him. According to William Mundie, Jenney's partner, and Jenney himself, the latter freely shared his books and knowledge with his "students."⁸

Monsieur Ruprich-Robert mentioned Owen Jones' *Grammar of Ornament*, but pointed out that the Englishman's book appeared only after his own articles on ornament were published in the *Revue générale de l'architecture et travaux publics*, volume XI, 1853. Later, in volume XXVIII (1870) of the *Revue générale* . . . he published another set of designs. Sullivan, incidentally, owned an almost complete set of this journal.⁹ Ruprich-Robert praised this book as " . . . Bien fait . . . avec un grand luxe typographique, et dont les planches sont chromolithographiées." But he continued:

His aim has no resemblance to mine. M. Owen

7 Victore Marie Charles Ruprich-Robert, *Flore ornementale, essai sur la composition, éléments tiré de la nature, principes de leur application*, Paris, 1876, p. 4. Ruprich-Robert (1820-1887) was among those French architects most critical of the *École des beaux arts*. Arguments against this institution were summed up in his brochure, *Réflexions sur l'enseignement de l'architecture en 1881*. He also published works on French and English architecture and did some building in the Medieval style. Louis Hauteceur, *Histoire de l'architecture classique en France*, Tome VII, Paris, 1957, p. 299.

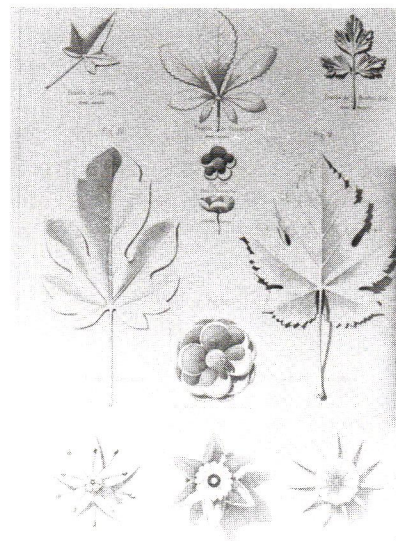
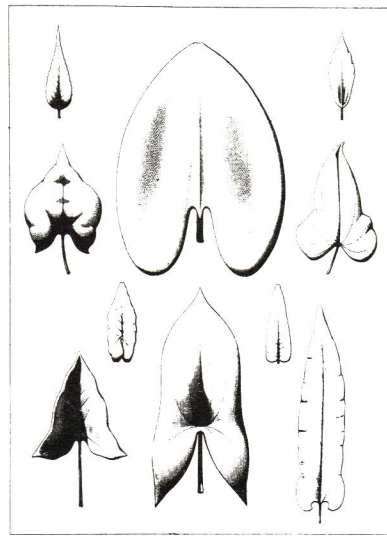
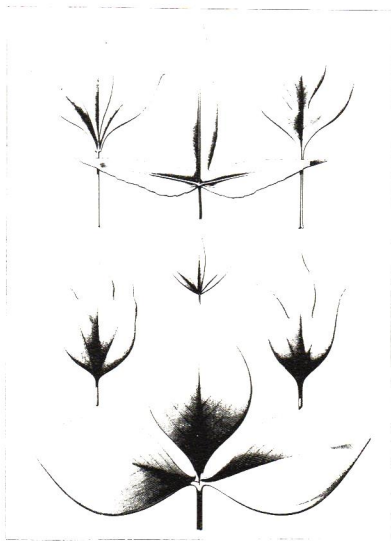
8 William Le Baron Jenney, "An Old Atelier in the Seventies," *Western Architect*, X, 1907, p. 72. It is possible that Jenney learned of this book as a result of the Paris World's Fair of 1867. He was a personal friend of Col. James H. Bowen who was United States Commissioner to that event. Jenney built a house for him copied from one shown at the exhibition. Col. Bowen possibly introduced French ideas concerning construction and park design to Jenney who put them to use in Chicago in these years. I will comment on Col. Bowen's importance in future articles. For a picture of Col. Bowen's house see my article in the *Prairie School Review*, Third Quarter, 1970, pp. 8-10.

9 This information is in the catalogue of Louis Sullivan's possessions made when they were sold at his bankruptcy auction on November 29, 1909. It may be found in the microfilm collection of the Burnham Library in the Chicago Art Institute. Sullivan owned volumes IX to XXVIII of the *Revue générale de l'architecture* inclusive except for volume XXVI. He also owned the journal *Encyclopédie d'architecture*, Volumes I, II, III, V, VI, XI, and XII (1851-62). Also, two books by Viollet-le-Duc were included, *Discourses on Architecture* and *Compositions et dessin*. Finally there was *Le nouvel opéra de Paris*, 1880, by its architect Charles Garnier. All of these volumes should be researched to see what influence they had on Sullivan. While the articles by Ruprich-Robert were accessible to Sullivan, his book is quite rare. One of the few copies in this country is in the library of the University of Michigan.

4 Willard Connely, *Louis Sullivan as He Lived*, New York, 1960, pp. 44-53.

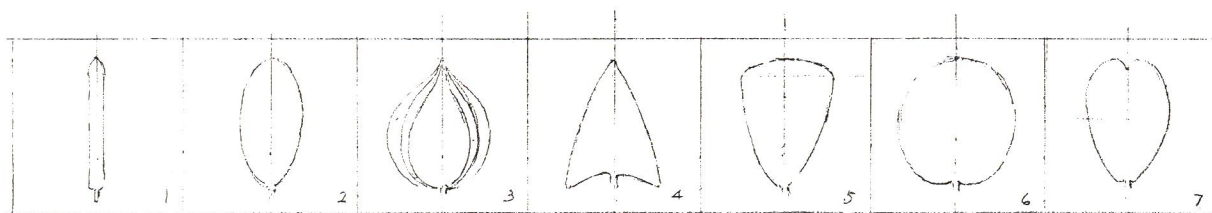
5 Letter: W.L.B. Jenney to President James B. Angell, 8 August, 1876, *University of Michigan Historical Collection*.

6 Frank Lloyd Wright, *Autobiography*, N.Y., 1932, p. 91. Wright claims to have introduced the work to Sullivan in 1889. Scully noted that Sullivan began to use the interlace after this period. This does not mean that Sullivan had not known of the book before 1889. Vincent J. Scully, Jr., *The Shingle Style*, Yale, 1971, p. 162.



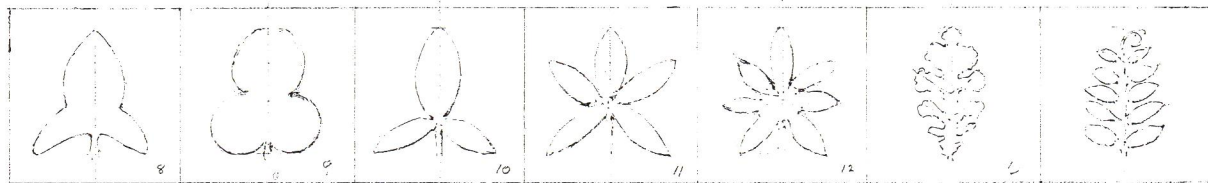
The left and center illustrations above show leaf forms from Ruprich-Robert's *Flore ornementale*. At the right is a plate from his article in *Revue générale*, XI, 1853. The sharply drawn flowers shown in deep relief were characteristic of much of Sullivan's early work.

Sullivan's leaf shapes are much simpler, but they resemble those of Ruprich-Robert in *Flore ornementale* and the *Revue générale*. *A System of Architectural Ornament*.



SIMPLE LEAF-FORMS

BY MANIPULATION ANY OF THESE FORMS MAY BE CHANGED INTO ANY OF THE OTHERS THROUGH A SERIES OF SYSTEMATIC ORGANIC CHANGES KNOWN TECHNICALLY AS "MORPHOLOGY."



Jones has produced a great number of examples classed by order of dates and civilization. These are reproductions taken from monuments and manuscripts, giving an accurate idea of what has been done before us; this is above all a history of ornament. It is true that after the archaeological part there are some plant drawings taken from life; but they do not approach the general idea which proceeds from my work; they are picturesque, accidental, and natural; but this is not of itself ornament.¹⁰

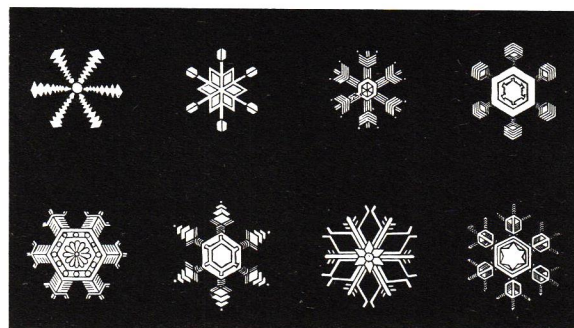
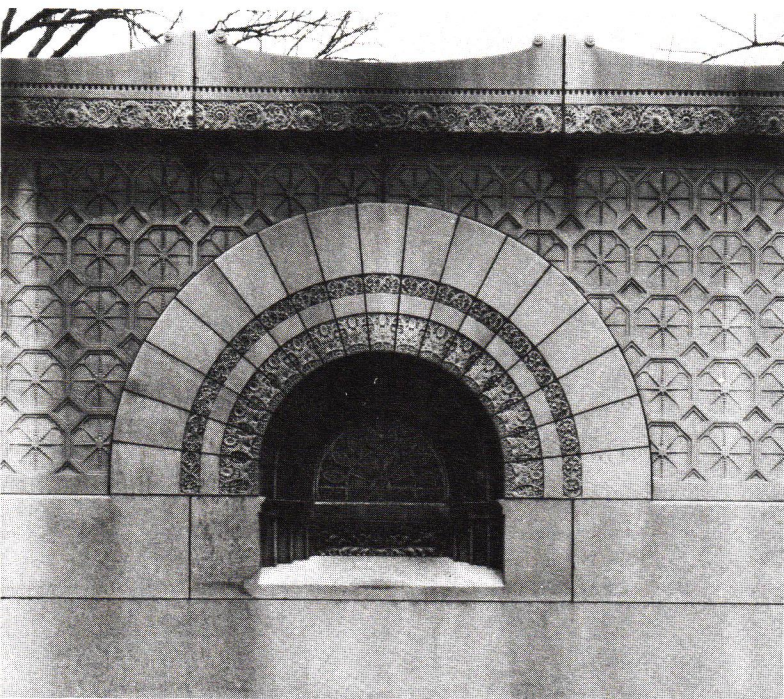
He also mentioned Viollet-le-Duc's essay on *Flore* in his *Dictionnaire raisonné*. Ruprich-Robert felt

10 Ruprich-Robert, *op. cit.*, p. 7.

that his compatriot was wrong in writing that flowers had little role in medieval ornament. Ruprich-Robert thought otherwise, but on all other points he felt that they were in basic agreement.¹¹

Like so many of his contemporaries Ruprich-Robert was concerned about the state of the decorative and architectural arts. He saw that two extreme outlooks had developed during his day. On one hand there were artists and architects who were content simply to reproduce the forms of the past. On the other hand there were those "... born of the breath of industrial progress, and who, under the pretext of applying the geometry of utility, express

11 *Ibid.*, p. 8.



Above is a detail from the Getty Tomb by Sullivan. At upper right is a detail of snowflakes illustrated by Ruprich-Robert in his article for *Revue Generale* and at right is a hexagon bas-relief pattern from *Flore ornementale*. The similarities are striking.

only dryness and poverty." There was yet a third way and this was through the study of nature and the application of imagination. He called this the "*géométrie amiable* of a God who reigns over creation and whose elements we find each day in the flowers that we callously tread under foot."¹²

Ruprich-Robert was at about the same place within the artistic spectrum as Sullivan. He was disillusioned with the sterile historic imitations of the academies and he detested the Philistinism of the technocrats. One finds also the most subtle hints of the pantheism that infected Sullivan.

The source for artistic inspiration was nature, and his interest in natural science predicted Sullivan's fascination with Asa Gray's *Botany*. In considering the history of ornament Ruprich-Robert theorized that all design may be traced to the constituents of nature — mineral, animal and vegetable.

¹² *Ibid.*, p. 2.

"The genius of man," has been to "simplify, or amplify, in a word modify, those elements which he has under his eyes, and giving to each . . . new expressions corresponding to the ideas that he wished to express." He cited especially crystals with their myriad of inorganic forms. The parallel plane, salient angles and basic geometric shapes offer great potential to the artist as Sullivan was later to show in the Getty tomb. This might be seen in the shape of the snowflakes which, though they respond to fixed laws of nature nevertheless lend themselves to infinite variation. Ruprich-Robert saw this as the fruit of a single will much as Sullivan would see this as an immutable law of nature.¹³

From the inorganic, Ruprich-Robert moved to the organic. His ideas concerning animal designs need not detain us because this was not an element in Sullivan's thought. His discussion of the vegetal

¹³ *Ibid.*, pp. 62-3.



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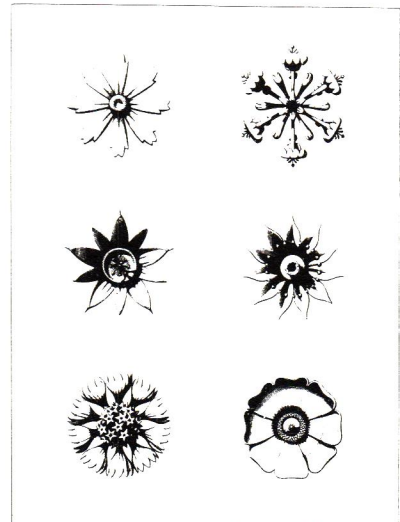
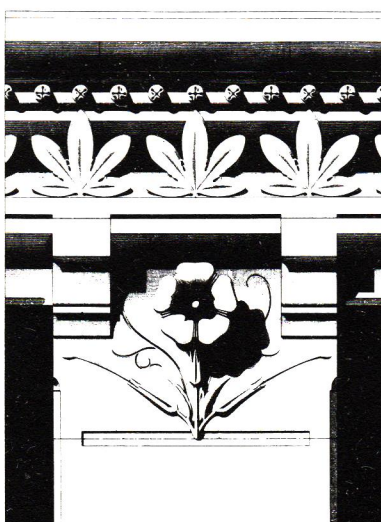
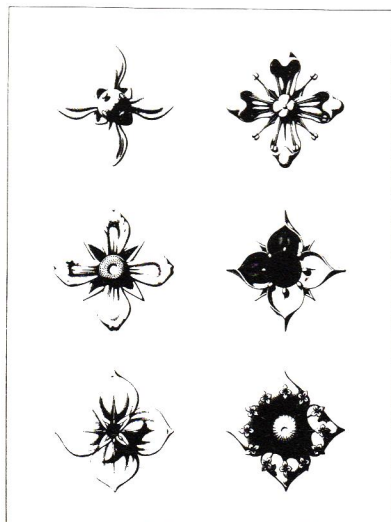


sources of ornament was more pertinent. He started with an analysis of botanic forms. Seminal geometry can be seen in stems, buds or seeds. The form might be "cylindrical, triangular, quadrangular, pentagonal or hexagonal according to the nature of the plant . . ." A cross section of any of these might "awaken in us" a desire to reproduce it. In the cross section of buds from the "*grand Patience*" and the "*Peuplier*" he saw a direct influence on Celtic style designs. Curiously similar patterns may be seen in the lower portion of the spandrel between the sixth and seventh floors of Sullivan's Wainwright building in Saint Louis.¹⁴

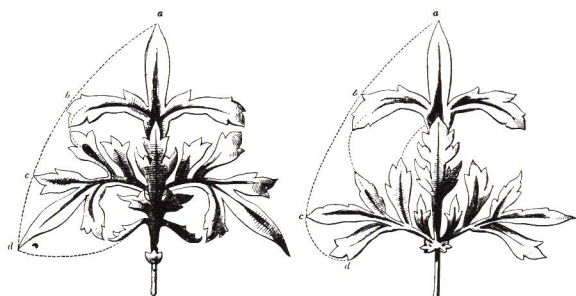
A designer must remember, Ruprich-Robert cautioned, that a plant is a living thing — it is organic, it

¹⁴ *Ibid.*, Ruprich-Robert does not specifically mention Celtic art but the resemblance to Irish enamels is obvious.

*Sullivan's designs from the spandrels of the Wainwright building show affinities with the designs under study. At left we see an exploding seed pod in the upper spandrel. The lower lintel of that spandrel has a design similar to the one Ruprich-Robert derived from *grande Patience* and the *Peuplier*, cross sections of which are illustrated at left. The intersecting ellipse of the story below may have antecedents in Colling's studies. The corner flowers are close to Ruprich-Robert's stylizations seen in the plate at left below. The center flower seems to be a flattened version of that shown in the *Flore ornementale* plate at right below. The frieze of silhouetted five lobed leaves is much like those shown in the center plate below, also from *Flore ornementale*.*



takes nourishment, grows, ages and dies. Perhaps it is even sensate.¹⁵ This being the case the artist must see that his own productions are part of a creative force. All plants, even a dead, dry lavender can be expressive.¹⁶ Ruprich-Robert's sharp, twisting representation of this plant suggests some of Sullivan's later ornament.



The cresson alénois subjected to the principles of geometric analysis. Flore ornementale.

In using nature as model he considered it best to first employ the fully developed leaf or flower because the mature form is more easily analyzed. This constituted the next logical step beyond the inorganic. As an example of the design process he used a leaf of the *Cresson alénois* (garden cress). He wrote:

If we wish to give it an ornamental accent we must arrange the silhouette of one of the leaf's sides according to *abcd*; the secondary curves can still be traced within to direct the edges of the contours into each other. In this way we can suppress the natural disorder of the plant; one

15 *Ibid.*, p. 76.

16 *Ibid.*, p. 108.

obtains an intimate liaison which is a necessity of the composition, and one which produces a more complete unit. The left side thus modified has been repeated on the right. In the next illustration it is the right which is made to act in the same way. If this manner, which consists of repeating the sides of this leaf twice . . . appears contrary to the laws of nature . . . it goes without saying that the object is to produce an ornament and not a portrait.¹⁷

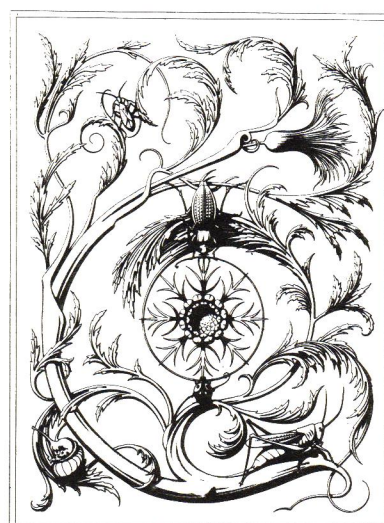
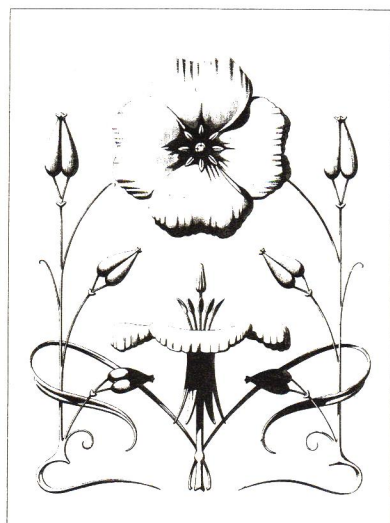
The approach was of course not precisely like Sullivan's. Sullivan invariably worked from the inert to the dynamic while Ruprich-Robert in a sense sought to discipline nature with geometry. Their concerns were similar, however, in that both realized the interdependence of the two.

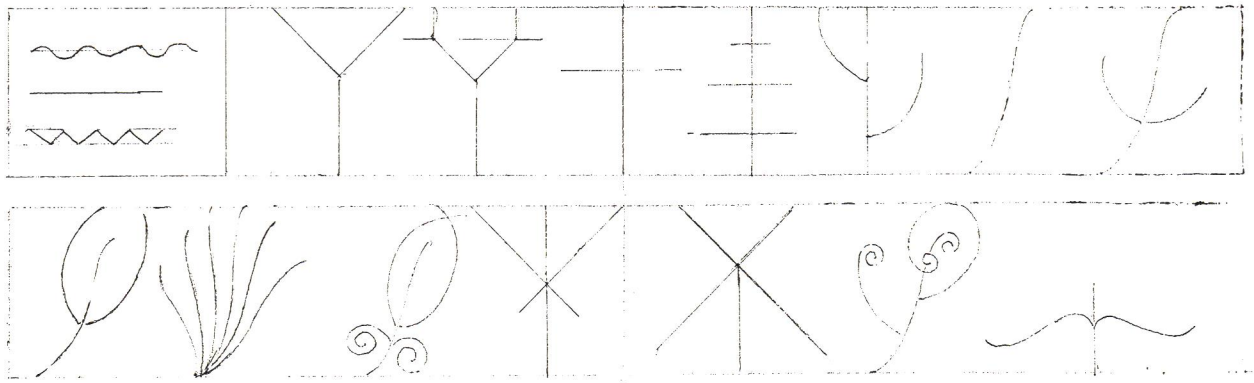
Symmetry should never be considered a dead and inert thing. It has a dynamic potential that was most realized in the past by Romanesque and Gothic designers. Decorations which at first glance appear symmetrical are in reality not so. A subtle and conscious variation of dimensions and detail revealed an attitude responsive to nature. In like manner, the nineteenth century ornamentalist might create compositions of warmth and charm which a rigid adherence to geometric laws frequently destroys.¹⁸

17 *Ibid.*, pp. 101-102.

18 *Ibid.*, p. 101.

At left below is an ajustement by Ruprich-Robert. The center plate shows how he elaborated upon a simple geometric theme by using a series of parallel axes and more complicated foliage. At right is the carotte sauvage, an asymmetrical design controlled by a rigid axis.





Axes used by Sullivan to control asymmetrical and symmetrical compositions. Plate 5, A System of Architectural Ornament.

The whirling, energetic yet controlled rhythm from Plate 6 of A System of Architectural Ornament resembles Rupprich-Robert's carotte sauvage. Upside down the design of the upper left is quite close.



In his examples Ruprich-Robert proceeded from the simple to the complex — from single leaves and plants with an easily discernible order to complicated entanglements of several species.¹⁹ At times the design might be vigorously asymmetrical as in his composition using the *Carotte sauvage*. It is convoluted, but controlled by a flower in full face at the center. An axis is formed by the flower and two insects. The use of an axis to direct the force of curvilinear forms suggests plates five and six of Sullivan's *A System of Architectural Ornament*.

Ruprich-Robert sought a "transformation" of nature whereby nature and geometry would be fused into an architectural creation by the spirit and intuition of the artist. Thus "... his subject provokes in his mind an idea, an emotion which is the first element, the principle of his production."²⁰

Ruprich-Robert's notion of the bud was somewhat analogous to the rôle that Sullivan gave to the seed germ. Sullivan wrote:

The germ is the real thing; the seat of identity. Within its delicate mechanism lies the will to power: the function which is to seek and eventually to find its full expression in form.²¹



The seed-germ from *A System of Architectural Ornament*.

Ruprich-Robert wrote that the leaf was a mature form while:

The bud by contrast carries within itself only the elements of future power; its sensibility is great; but power itself is contained completely within the stem and possesses in its breast that which one day will give generously leaves, flowers and fruits; it expresses the continuity of life . . .²²



Like Sullivan Ruprich-Robert was fascinated with the process of germination and growth and repeated the theme many times. *Flore Ornementale*.

19 *Ibid.*, Plates 1-43.

20 *Ibid.*, p. 109.

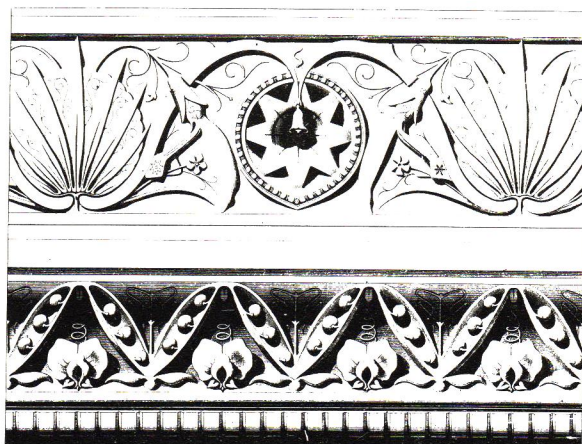
21 Louis Sullivan, *A System of Architectural Ornament*, N.Y., 1924 and 1966, Frontispiece.

22 Ruprich-Robert, *op. cit.*, p. 3.

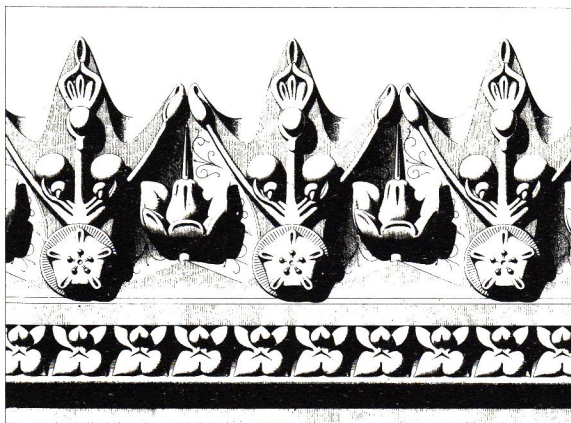
He felt that modern ornamentalists neglected the potential in the bud, so he illustrated the sense of growth created by its various stages of development. He also tried to show how such seminal shapes could invigorate moldings and other architectural details. These can be compared to some of Sullivan's creations.

Ruprich-Robert's decorations can be classified as (1) horizontal compositions such as moldings and strips of stencil (2) larger, more complicated designs, usually symmetrical which can be described as escutcheons, and finally (3) individual motifs. No effort has been made to relate these types to the chronology of Sullivan's work. Rather, it will be illustrated that certain conceptions surface in his work throughout his career.

Two moldings, one bearing pea-pods, the other maple seeds suggest Sullivan's seed germ. Ruprich-Robert carried the idea further in a molding of sprouting buds arranged in a series. Each of the principal motifs has two sprouts forming a Y with a third on axis. The lower portion is a seed pod.



The frieze of pea-pods suggests Sullivan's seed-germ. *Flore ornementale*.



Ruprich-Robert attempted to work his sprouting bud forms into a coherent semi-abstract design.

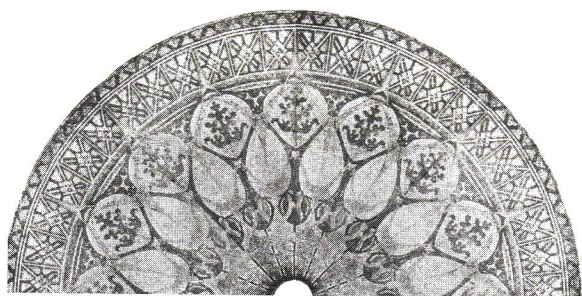


*The Y shaped bud or seed-germ motif used in the arch stencils of the Owatonna bank (1908). *Prairie School Review*.*

Between each Y is a floral design forming a counterpoint. Delicately incised arabesques contrast to the rest of the deeply cut molding. The pea-pod molding is similar. It sprouts from two small leaves and is bisected by a sprout which itself grows into two leaves.

In the National Farmers' Bank in Owatonna, Minnesota one can find a similar scheme repeated in the stencils of the great spans. It seems to be a combination of the pea-pod and sprouting moldings. The Y starts in the next to lowest band with a roundish design, runs vertically through curling symmetrical leaves, through large petals to a floriated form just as it does in Ruprich-Robert's moldings. Furthermore, the tips of the petals touch forming a similar horizontal rhythm. Sullivan simply took a set of cold static forms and invigorated them with his own magnificent linear sense.

A mosaic from the Schiller building represents an earlier use of this motif by Sullivan. Here the branching bud, contained in an ovoid form, is even closer to the example found in *Flore ornementale*.

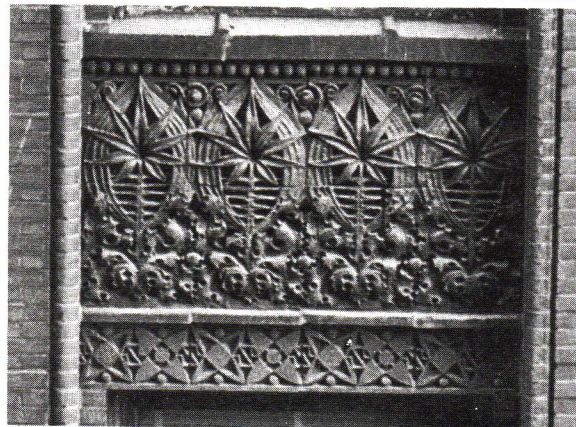


A mosaic from the Schiller building illustrates a complicated but still identifiable use of the sprouting Y motif. Library of Congress.



Stencil decorations from Flore ornementale. The lower design is extremely close to the fourth-fifth floor spandrels of the Wainwright. The upper is less complicated but not unlike some of the stencils in the Auditorium building.

Another interesting comparison can be seen by studying the spandrel between the fourth and fifth floors of the Wainwright building in Saint Louis. Sullivan used a series of pointed mandorlas (four in all), each enclosing what appears to be a cannabis leaf. It grows out of a foliate design at its base. Above it was noted that Sullivan translated a plastic relief into a two dimensional medium. Here he reversed the process. Ruprich-Robert illustrated the cannabis leaf in his book. He also used a similar five-petaled flower in a stencil band. The strong

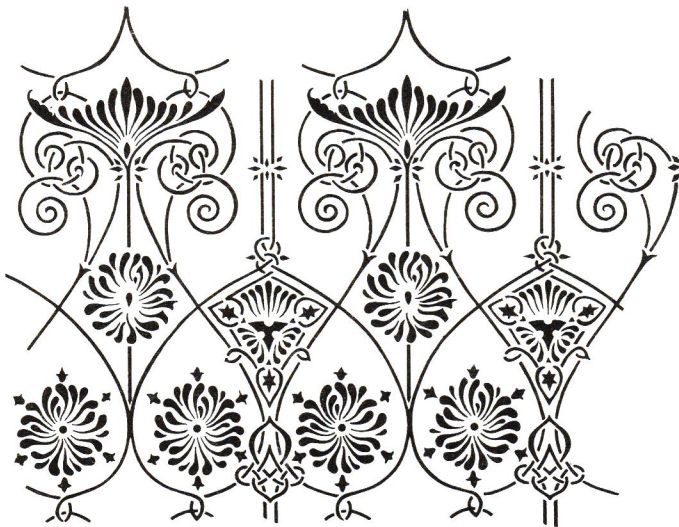


Fourth-fifth floor spandrels of the Wainwright building. Photo by Paul E. Sprague.

resemblance to Sullivan's terra cotta must be more than coincidence. Here too, the cannabis (or something which resembles it closely) is enclosed in a pointed mandorla. Although the leaves are less complicated at the bases than those of the Wainwright building, they curve and undulate upward in the same way.

Also noteworthy is the row of stencils found on the same page as the cannabis frieze. Like Ruprich-Robert's molding, it derives from a sprouting plant and thus resembles the mosaic from the Schiller building. The stencil is more complex than the molding. Each plant overlaps its neighbor and at that point sprouts again. Further up the stem the sprouting occurs a third time. Each stem terminates in a bud. Between each stem is an ovoid with foliate and sprouting forms within.

Some of the stencils in the Auditorium building created by Sullivan and his assistants are not too dissimilar despite the fact that they are quite intricate and curvilinear. We see Y shaped sprouts with axial stems separated by ovoids with flowers. Sullivan's genius was such that though the composition can be read in several ways the same underlying pattern emerges.



Stencils from the Auditorium building. Although more fluid they have the Y configurations of Ruprich-Robert's designs. *Prairie School Review*.

One of the characteristics of Sullivan's works were large, florid, symmetrical compositions which one might call escutcheons. Their ancestry is no doubt complex, but possible prototypes can nevertheless be found in *Flore ornementale*. As with the borders and friezes the origins of Ruprich-Robert's more formal compositions were in nature. They ranged from simple representations of plants (as those in the *Revue générale* . . . which Sullivan cer-

tainly saw) to more complicated *ajustements* and finally their realization in bas-relief.

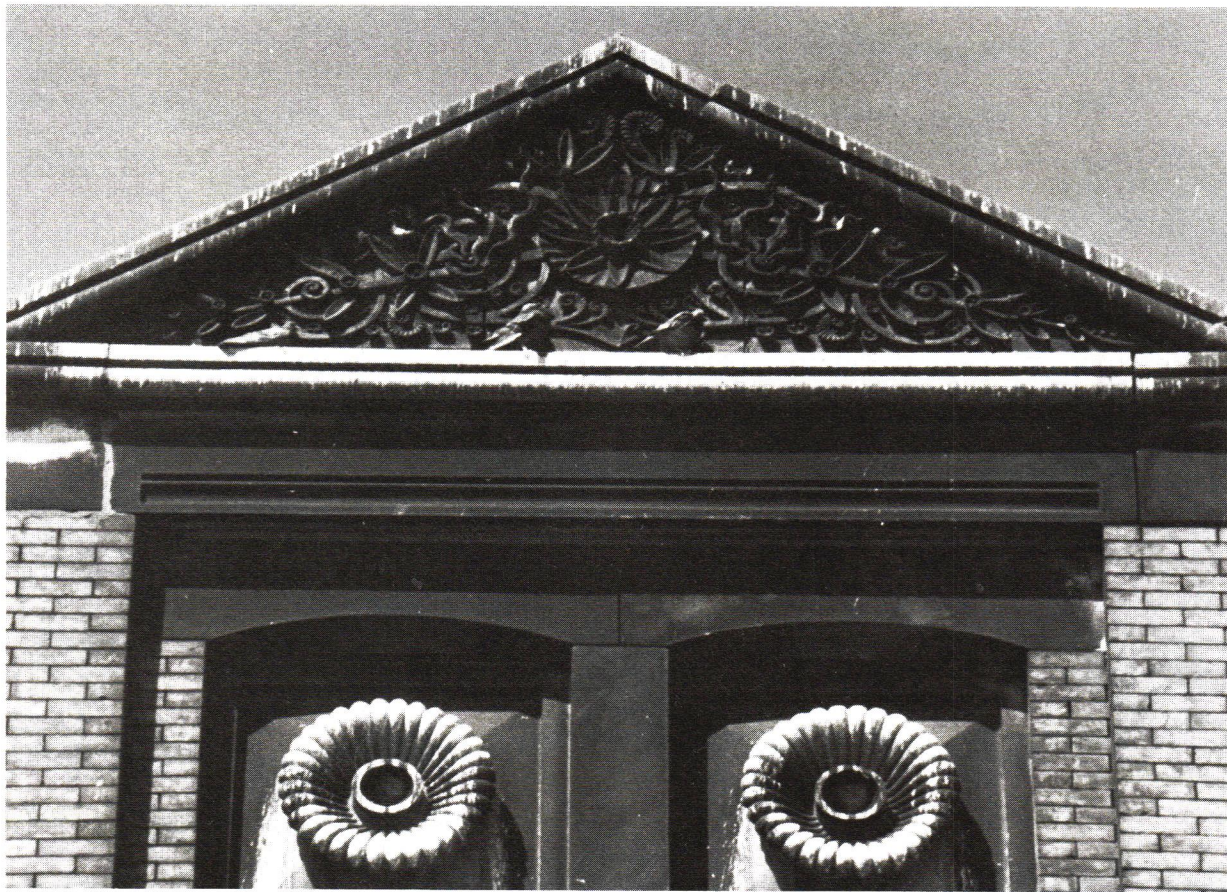
In an early work by Sullivan, the Hammond Library (1882), Ruprich-Robert's principles seemed most evident. The center of the pedimental decoration is a deeply modeled flower from which radiate three axes and about which the design was formed. The precedents for both the flower and the radiating axes can be seen in the plates from *Flore ornementale*. Plate 42 illustrates plant forms in a rigid triangular format much like the Hammond Library pediment. Ruprich-Robert illustrated several flowers, all in deep relief, which resembled Sullivan's. Individual petals and leaves also seem to have their source in such plates as number 49.

Because of its complexity it is sometimes difficult to see a resemblance between a design by Sullivan and its possible model in *Flore ornementale*. In many cases, however, the skeleton of the composition was anticipated by the latter.

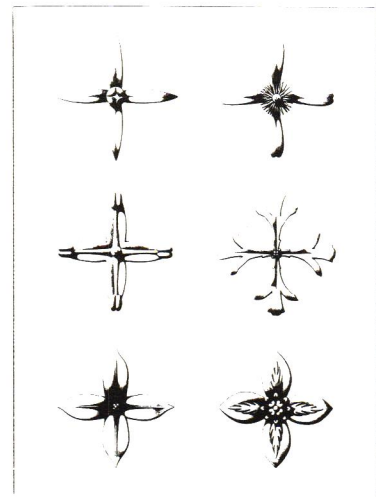
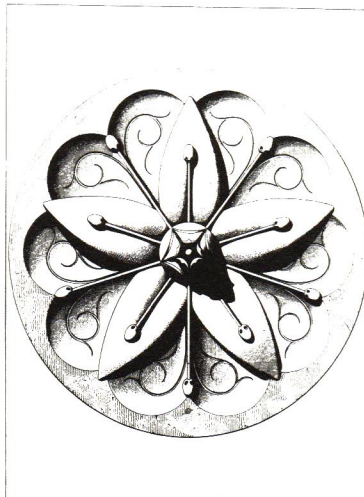
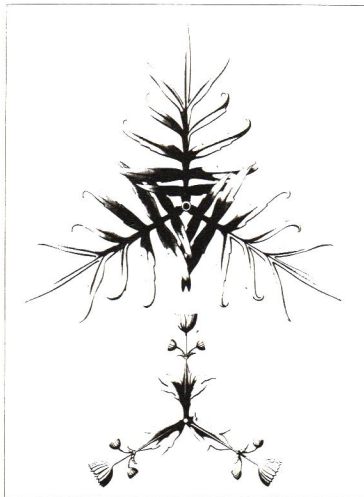


Plate 111 from *Flore ornementale*.

One *ajustement* (Plate 111) is made of sweeping saber-like shapes that overlap and interplay with plant forms, curving tendrils and radiating centers. All elements are organized around an axis. Turned upside down this plate can be seen as a distant relative of "Development of No. 12 of Plate 2 and Plate 8" of *A System of Architectural Ornament*. Plate 113 of *Flore ornementale* has a configuration like "Development of No. 13 of Plate 2" of Sullivan's book. Both are elongated ovoid forms with a central



Pediment from the Hammond Library by Sullivan (1882). Library of Congress.



*Above are three plates from *Flore ornementale* all of which bear a strong similarity to the ornament used in the pediment of the Hammond Library. The flower done in deep relief within a saucer was a common device of Ruprich-Robert as it was with Sullivan during this period. The sharpness of the flowers in these plates also is reminiscent of Sullivan's early ornament.*

axis that flowers at its apex. Both have a bud at the lower portion of which curling forms emerge. The major difference is Sullivan's dramatization of the design. The bud is larger and curves up more vigorously through the contour of the ovoid. The intersections are then complicated in his customary,

intricate manner. Plate 12 in *A System of Architectural Ornament* appears to be a further development of this idea.

The teller cage, formerly used in the Owatonna State Bank and executed by George Elmslie under Louis Sullivan's supervision, may be a composite of

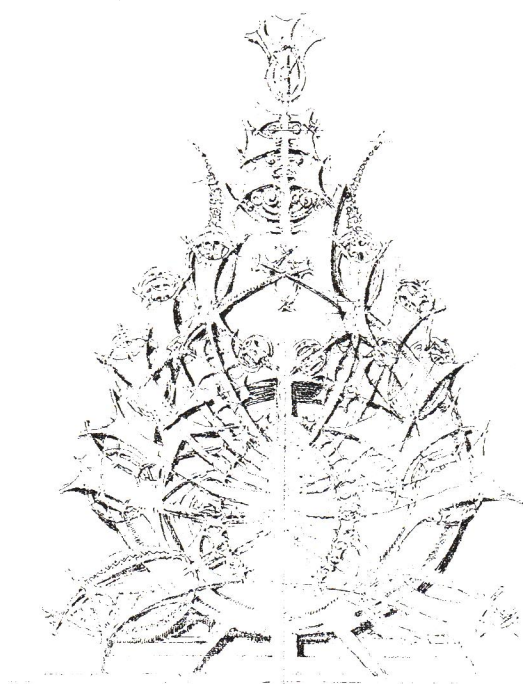


Plate 2 "Development of No. 12 motif,"

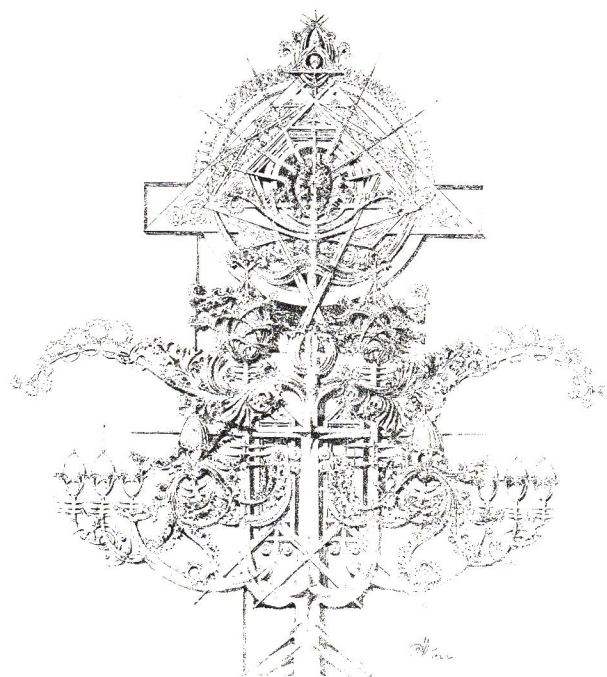


Plate 8 from *A System of Architectural Ornament*.

The drawings on this page, all from *A System of Architectural Ornament*, clearly illustrate Sullivan's development of a theme organized around an axis. Furthermore, they can be seen as an elaboration of Ruprich-Robert's ornament as illustrated in his Plate 111 shown on page 14.

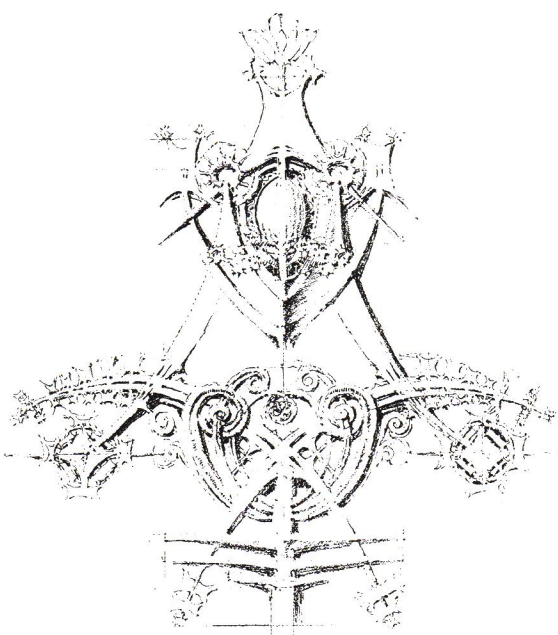


Plate 2 "Development of No. 13 motif,"

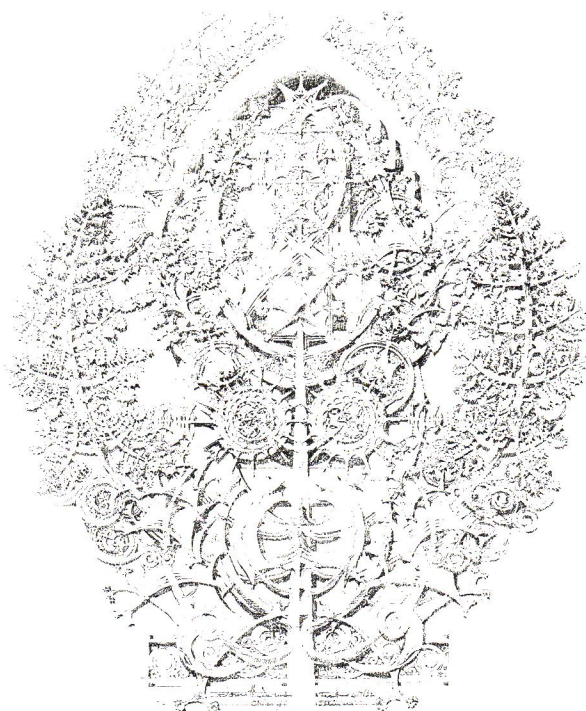
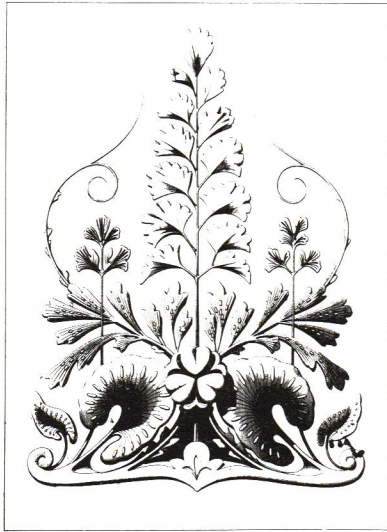


Plate 12 from *A System of Architectural Ornament*.



Above are, from left to right, plates 109, 144 and 67 from *Flore ornementale*. All seem to have influenced the Owatonna teller's wicket by Sullivan and Elmslie. Note the sprouts on either side of plate 109 and the complexity and outline of 144. The linear yet three dimensional interplay of forms in plate 67 suggests Sullivan's later ornament. This plate, variously reversed or turned upside down, resembles the teller's wicket even to the spores along the leaves.

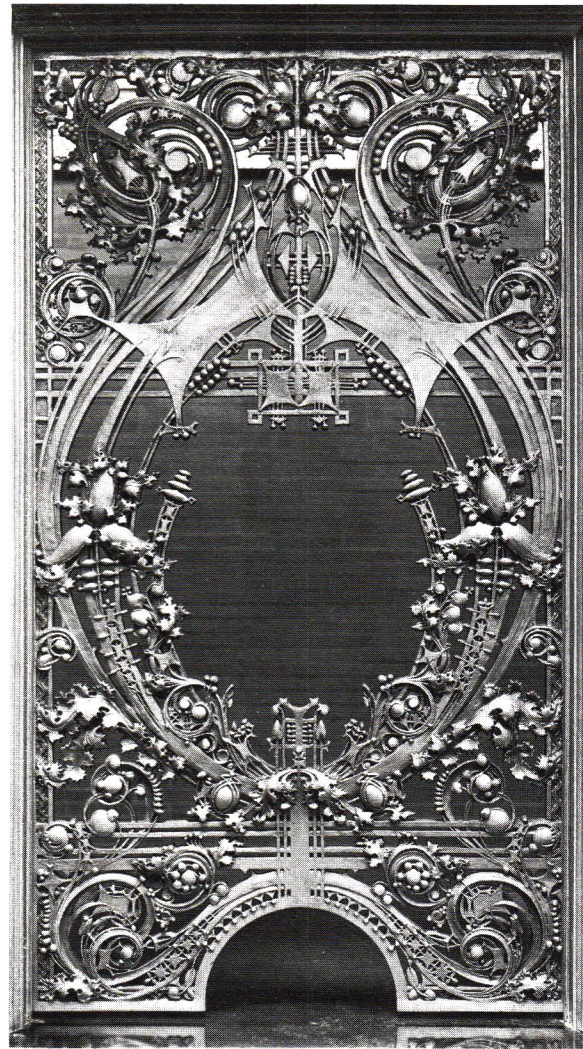


Plate 113 of *Flore ornementale*.

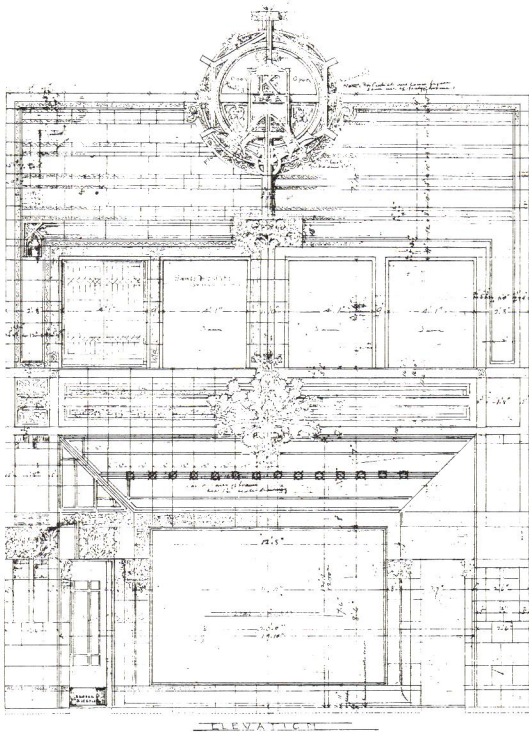
several *ajustements*.²³ In Plate 109 of *Flore ornementale* one sees a "bouquet" of plant types which curve from the lower edges inward, are knotted together by a flower and then move outward. On each side leaf forms sprout.

Sullivan, of course, left a void in the center. He also made the side sprouts follow the contour. Otherwise the rhythms are quite close. Plate 109 lacks the upper development both on the central axis and the diagonals, but these can be seen in Plate 113. Thus the complete contour of the teller's cage can be inferred from combining two engravings

²³ Paul E. Sprague, "The National Farmer's Bank, Owatonna, Minnesota," *The Prairie School Review*, Second Quarter, 1967, p. 10. Professor Sprague suggested that a rough sketch was provided by Sullivan.



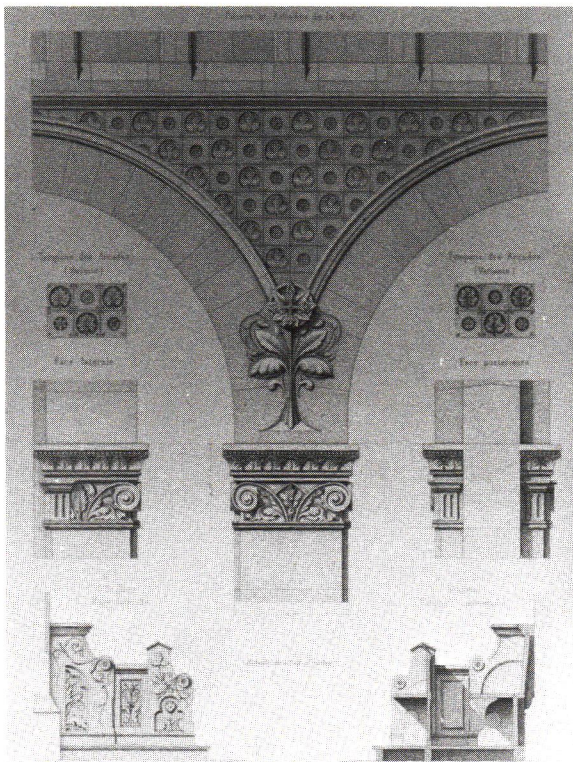
Teller's cage, State Bank, Owatonna.



Foliated pier or shaft from the Krause Music Store (1922). *Prairie School Review*.



Jeweler's building (1881-82). Is this sprouting flower the link between Ruprich-Robert's ornament and Sullivan's later, foliated piers?



Flowering shaft ornament by Ruprich-Robert. *Revue générale*, XXVIII, 1870.

from *Flore ornementale*. If one considers Plate 67 of the latter, he will find an anticipation of Sullivan's textural treatment. The twisting, overlapping, linear leaves could be a source of the cage's corner arabesques. Not only is the richness and complexity comparable, but one also finds the little seeds (found also at the base of Plate 113) along the leaves of both compositions.

Similarities can be found in certain individual motifs. In the Wainwright building the lintel above the fifth floor has a band of silhouetted leaves, a device found in several of Ruprich-Robert's illustrations.²⁴ The foliated pier was a device that Jordy found "... exceedingly original."²⁵ It had several variations, but the axial shaft of the Krause Music Store may be seen as its final development. Its base erupts into an explosion of foliage, leafs out above the second story windows and culminates in a "flower" which here is a blooming circle-octagon. This sequence appears in the axial development of a number of Ruprich-Robert's *ajustements*. The germ of the idea may be seen in a small flower carved into a lintel of the Jeweler's building (1882). The use of a

²⁴ For superb illustrations of this monument see Paul E. Sprague, "The Wainwright-Landmark Built and Saved," *Historic Preservation*, October-December, 1974, pp. 5-11.

²⁵ William H. Jordy, *American Buildings and Their Architects*, Volume III, 1972, p. 153.

flower in conjunction with an architectural support appeared in Ruprich-Robert's article in volume XXVII (1870) of the *Revue générale* . . . In this example the flower is enclosed in a circle. The theme is even closer in the frontispiece to *Flore ornementale* where a naturalistic flower sprouts on either side of the page. The order of ascending shapes lacks only Sullivan's genius.

One of the motifs that Sullivan used throughout his career may be designated the exploding seed pod. It can be seen on the spandrel between the sixth and seventh floors and around the south portal of the Wainwright building. In the last instance it is at its most expressive because the tightly curled seeds appear on the verge of expelling their seeds. The plaster decoration of the Kehilath Anshe Ma'ariv Synagogue (1890-91) has it combined with a florid version of the sprouting. Here its energy suggests an affinity to another book from Jenney's atelier *Recueil de sculptures gothiques* by Adams, 1866.²⁶ The motif appeared in the upper right and left hand corners of the façade of a work as early as the Jeweler's building and comes closest to the probable model in *Flore ornementale* in the exterior capitals of the Walker warehouse. Ruprich-Robert presented the device in a straightforward naturalistic way, but its relation to Sullivan's infinite variations is obvious.

Education and the creative process was a concern of Ruprich-Robert as it would later be of Sullivan. Drawing and design could not be mere imitation. They must be the expression of the artist and his materials.²⁷ Both men found contemporary education stifling to creativity. It was necessary to both that the moral and spiritual factors within the intellect be developed if dull pedantry was to be avoided. The Frenchman felt that by working from pure historical precedent one could only be a craftsman and not an artist.²⁸ The latter must work from principles, but principles which can be freely interpreted, for ". . . art is in man what the creative power is in God."²⁹ The teacher can direct the student, teach him to draw and instruct him in the general rules of composition, but all this is useless if genius does not come from within.³⁰

Art was above all the expression of thought and thought the expression of genius for, "The artist is therefore free to interpret reality which he raises and

transfigures by all that is within himself and by all that his thought adds of the superior and the ideal." The real without the ideal would be as a body without a soul. It would be a corpse. Ruprich-Robert continued:

Finally, let us say in a more general manner that works of nature are a manifestation of life universal, that works of art are a manifestation of human life. Archaeology is only art history or the manifestation of the life of past generations. Contemporary art must be a manifestation of contemporary life.

We have come to recognize that if a man thinks, he cannot help but to create an ideal. Pursuing our reflection and its consequences, we say that the ideal is invention. . . The true artist is devoured by the need to invent and this invention can only be enriched by the freedom of his thought.³¹

These ideas in some ways anticipated those of Sullivan. In *Emotional Architecture Compared to the Intellectual* he complained that the inherent sensitivity of naive youth ". . . has been malformed, stupefied and discouraged . . ." by education. Ruprich-Robert lamented that early artistic training was neglected. The child's creativity must be recognized and at the proper age (about twelve) be nurtured.³² So Sullivan would also write, "But alas there is no *architectural kindergarten* — a garden of the heart wherein the simple obvious truths . . . are brought fresh to the faculties and are held to be good because they are true and real."³³

Using his native talents of *Imagination, Thought, and Expression* (similar to Ruprich-Robert's invention) modern man would surpass the Greeks and the Goths in creating a truly "poetic" architecture.³⁴ Both men saw the artist functioning in a pantheistic universe. Ruprich-Robert's God was a bit more orthodox than Sullivan's, but as he saw man's creativity as quasi-divine so Sullivan saw the artist ". . . within a universe of energy; a witness, a participant; and by virtues of his powers a co-creator — his creations are but a parallel of himself."³⁵

The edition of James Colling's *Art Foliage* in the University of Michigan Library bears the date 1873.

31 *Ibid.*, p. 125.

32 *Ibid.*, pp. 117-118.

33 Louis Sullivan, "Education," *Kindergarten Chats and Other Writings*, N.Y., 1955, p. 100. This essay was first published in 1901.

34 "Emotional Architecture as Compared to the Intellectual," *Ibid.*, p. 193. First published 1894.

35 Sullivan, *op. cit.*, *A System*. . . , essay on the Doctrine of Parallelism.

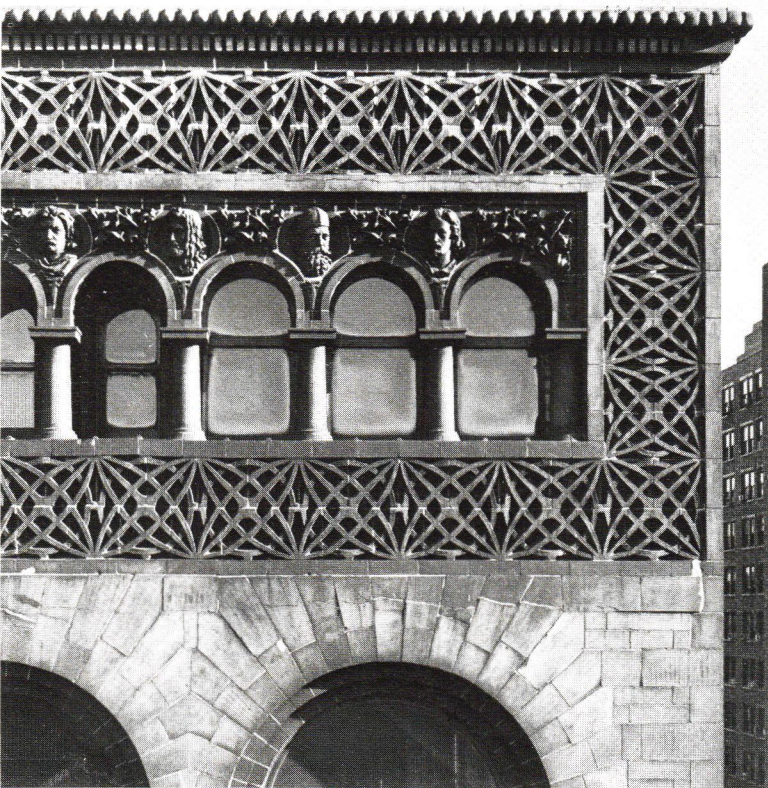
26 Theodore Turak, "A Celt Among Slavs: Louis Sullivan's Holy Trinity Cathedral," *Prairie School Review*, Fourth Quarter, 1972, p. 22.

27 Ruprich-Robert, *op. cit.*, p. 104.

28 *Ibid.*, pp. 125-6.

29 *Ibid.*, p. 3.

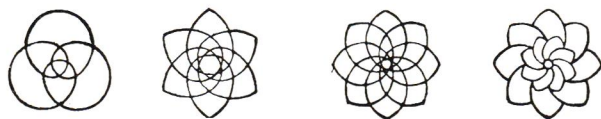
30 *Ibid.*, p. 124.



Intersecting ellipses used on the Schiller building (1891-92). Library of Congress.

Its title page informs that it was the "first American from the latest English."³⁶ The text states that it was written in 1865.³⁷ Again, it was possible that Sullivan encountered an earlier edition in Jenney's office.

The ideas contained in Colling's book were in many ways variants of those found in Ruprich-



The geometric basis for flower design according to Colling's *Art Foliage*.

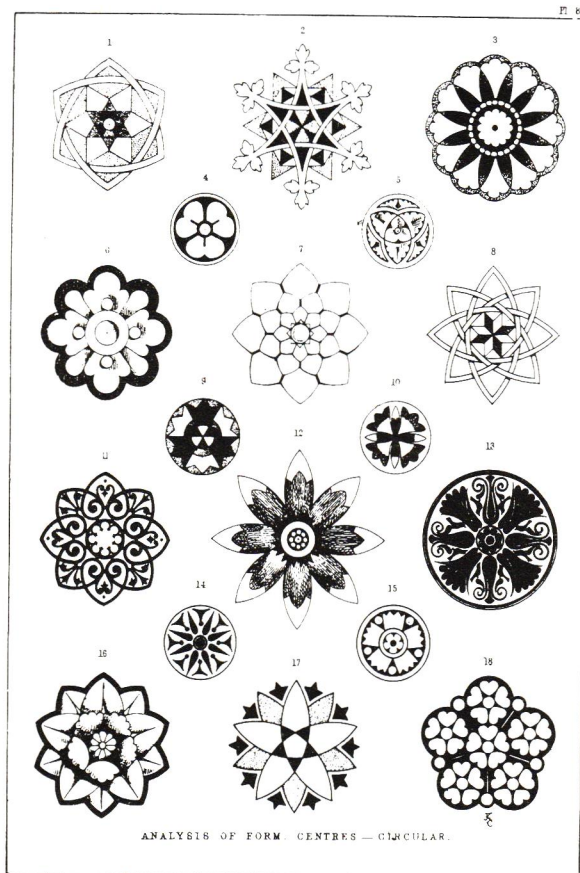
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Robert's *Flore ornementale*. It is also not surprising to find that Colling also found much to admire in Viollet-le-Duc's *Dictionnaire raisonné* . . .³⁸ The indications therefore point to a rather loose but extensive ideology from which such designers as Sullivan were able to draw.

36 James Kellarny Colling, *Art Foliage for Sculpture and Decoration with an Analysis of Geometric Form and Studies*, Boston, 1873, p. iii.

37 *Ibid.*, p. 48.

38 *Ibid.*, p. 4.



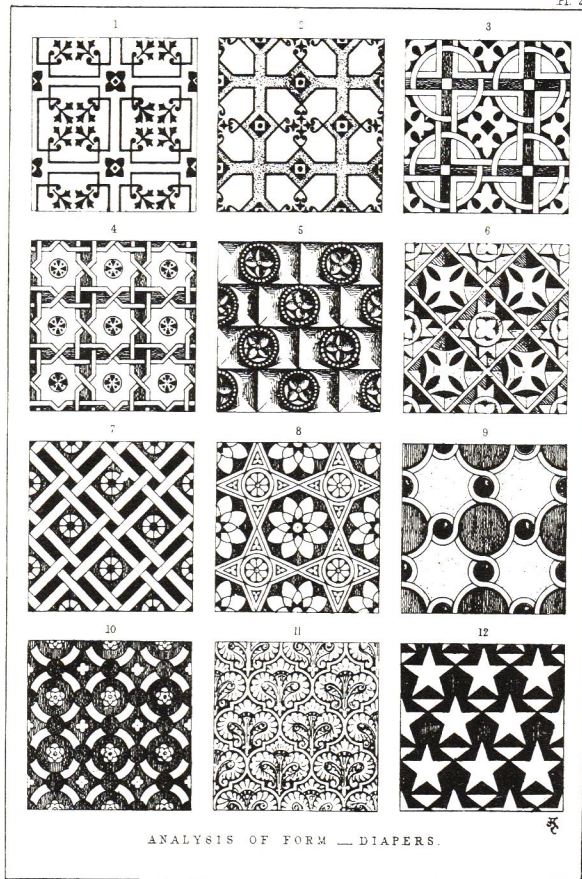
More geometric developments by Colling. The intersecting ellipse was often used by Sullivan. Several of these motifs could have been modified into the intersecting ellipses found on the Waimwright and Schiller buildings.

Colling hated the spiritless repetition of outworn decorative formulas as well as "coarse imitations of nature." This last never constituted true ornament. What he detested most was the barren sterility, the ". . . how much it would cost per square yard?" of the Philistines.³⁹ He longed to see a tasteful, nature-based ornament enriching the bare cornices and moldings of industrialized England. It was necessary Colling felt to proceed from basic principles to the exercise of the imagination. One must be selective in his study of nature, choosing only those elements which are best suited for the composition.⁴⁰ Beneath all good design lay the interplay between the geometric and the organic, the simple and the complex. Colling wrote:

One of the most extraordinary circumstances of nature, and one that produces constant charm, is the finding out by study that nature is highly geometrical and regular, and yet at the same time, it is so full of irregularities that they conceal any stiffness, or too great a precision in the development and expanding of its various parts.

39 *Ibid.*, pp. iii-iv.

40 *Ibid.*, p. 8.



Diaper forms from Colling. Sullivan's use of diapers was many and varied. Seldom is there an exact correspondence to a prototype but number 3 is very close to the upper row of diapers in the spandrels of the Guaranty building, Buffalo.

As was aptly observed by professor Kerr, upon the occasion of my reading a paper upon the subject at the Institute of British Architects, regularity in nature was carried out with, one might say, invariable irregularity, and in foliage there were two principles in constant operation, one being the regularity with which every object had been designed, the other the irregularity with which it was developed . . . The forms of leaves and flowers are highly geometrical, and are formed upon the triangle, square, the pentagon, &c., yet all are so modified and variety so great, that no two leaves and flowers can be found precisely alike.⁴¹

The basic components of design were thus geometric figures — the triangle, square and the circle. Other shapes, the hexagon, octagon, ellipse etc. were derivative and "compounds" of these. Colling emphasized his disagreement with Owen Jones whom he quoted as writing, "nature abhors an angle." Colling countered by observing that "Nature consists of the height of geometrical arrangement, into which the irregular is constantly intruding itself, but without straight lines and angles it

⁴¹ *Ibid.*, pp. 9-10.



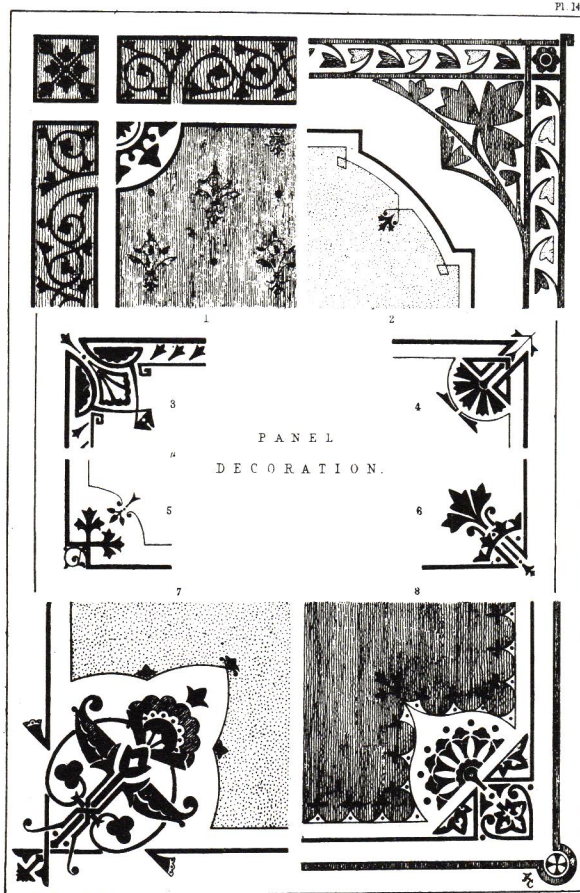
Guaranty building, Buffalo (1894-95). Jack Boucher for HABS.

would be difficult to have any geometrical precision."⁴² The type of design employed must be relative to its use and placement on the building. These motifs divide themselves naturally into diapers, borders and centers.

Colling's discussion of the three types was rather dry, but he did present a vast array of historical styles and an infinite number of variations. A few of his designs were not distant from those later employed by Sullivan. Never is there an exact correspondence, but there are instances of similar treatment of relief, geometric forms and the relationship of parts. Indeed, Sullivan's desire to articulate a building through ornament made him divide the surfaces much as Colling instructed — into diapers, borders and centers as seen in such a monument as the Getty tomb. A diaper pattern in the upper right of his plate 2 was apparently the source for a similar pattern in the spandrels of Guaranty building. Sullivan's ornament was almost always expressive and vital, but as Jordy has pointed out, it usually stayed more or less in restricted bounds.⁴³ It did not tend to fuse or integrate various portions of the building as did Gaudi or the Art Nouveau designers. Sullivan's use of bosses, rosettes and centers (as

⁴² *Ibid.*, p. 106.

⁴³ Jordy, *op. cit.*, pp. 147-8.



in certain examples of the Wainwright building) seems only slightly removed from prototypes found in Ruprich-Robert and Colling.

Colling may have had a more direct impact on Sullivan in some of his ideas concerning interior decoration. He advocated color, even in ceilings, because, "Our whitewashed ceilings are a remnant of barbarism, handed down to us from our Puritan fathers — the same who were so fond of *beautifying* our churches with their indefatigable whitewash brush."⁴⁴

Nature should be the model because of her infinite range and subtlety. Medieval colorations were crude in comparison:

It appears to me, then, that we should endeavor to follow nature, and induce a more extended scale of colour, as was the case in the middle ages. Modern decorators do use many shades of colour, with neutral green and reds, but there is a vast variety they do not attempt to imitate . . .

because,

Nature is ever varying her colours and by the

⁴⁴ Colling, *op. cit.*, p. 140.

Stencil designs by Colling.

East entrance, Guaranty (now Prudential). Jack Boucher for HABS.



various admixture of red in her foliage, she forms some of the most lovely combinations of neutrals greens. It is extraordinary how seldom she makes use of primitive colours . . . Nature seems to delight in the art of mixing her colours. When the leaves of the Guelder Rose begin to turn red in autumn, they shade themselves into a delicate green — brighter than the usual colour of the leaves — as though, it were the last bright flash from its spring dress before it was totally extinguished by the autumnal red.⁴⁵

It is difficult to reconstruct the evolution of color in architecture during the nineteenth century because of missing examples and the necessity of using black and white photographs for study. Color was in general use in architecture by the 1870's. The sources for Sullivan's own employment of it were certainly diverse, but such attitudes as Colling's must have formed the background to his ideas. My own strongest contact with Sullivan's color sense was in the bank of Owatonna and my recollection is one of both vividness and subtlety. Even within those great chandeliers there are gradations of reds and greens which are far from conventional. As the bank's president Carl Bennett wrote, "The colors of early spring and autumn predominate with a steadying green throughout the entire scheme . . ."⁴⁶

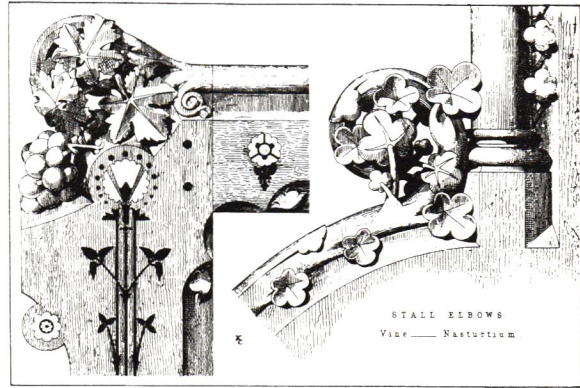
In decorating the wall Colling attacked the ". . . piling one thing upon the other, and totally without connection of line or idea . . ." such things as "pedestals, tripods, and vases, with a mixture of foliage, accompanied by birds, and parts of the human figure . . ." It would be more appropriate if the "Ornamentation of the surface should have no appearance of weight . . . There is no reason why an upright composition should not be made continuous, and flowing upwards and downwards, without being made to look as requiring any support; or that it should not be arranged from a centre, with its ornamentation extending up and down."⁴⁷

Stencil decoration was favored by Colling as it was later by Sullivan. Sullivan did not restrict those attitudes described by Colling to the interior of his buildings. They were just as applicable to his use of terra cotta. Thus in the terra cotta panels of the Guaranty building, diapers, centers, moldings move upward, outward and downward in an essentially weightless manner emphasizing the skin-like, non-supportive function of the wall.

45 *Ibid.*, pp. 37-8.

46 Sprague, *op. cit.*, "The National Farmer's Bank. . .," p. 18.

47 Colling, *op. cit.*, p. 41.

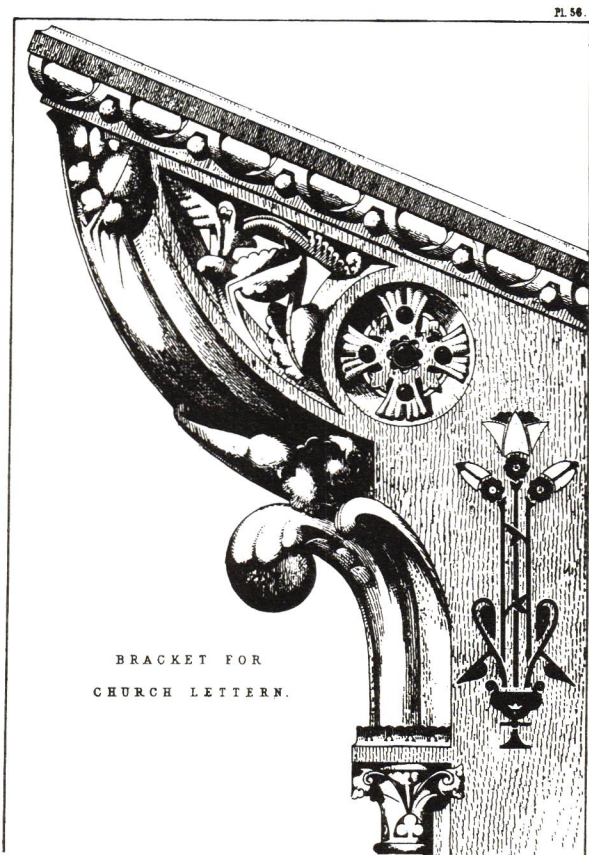


Bursts of ornament mark changes in direction in Colling's furniture.

At pressure points or at sudden changes of direction within a design (as in the intersection of post and lintel in the Guaranty building) Sullivan created a burst of efflorescence. Colling had studied this phenomenon in furniture based roughly on Medieval prototypes. He used the sharp elbow of a choir stall as an excuse for an explosion of ornament. Of slightly greater interest is a bracket for a church lectern. It was fashioned with a lacy fern motif springing from a small shaft on the front edge of the standard.⁴⁸ It is rather like the corbel type capitals used by Sullivan under the galleries of the Auditorium building in Chicago. The foliage does not correspond exactly, but the circular motif of the

48 *Ibid.*, p. 62.

A bracket for a lectern from Colling's Art Foliage. In general design it is very much like the capitals from the galleries of the Auditorium building.





Foliate details from the Jeweler's building.

spandrel (a cross on the lectern and a cannabis leaf in the gallery) plus a general curling up from the molding to the springing is similar.

The design for a marble inlay bore the same relationship to a pier of the Jeweler's building. Both were composed of flowers with flanking in-curling fern leaves. The scalloped and crisp edges of much of Sullivan's ornament at this early period also resembles Colling's work. A few of Colling's examples seem to foreshadow the spiky, tightly interwoven quality of Sullivan's later ornaments (as the capitals of the Wainwright's piers and Plate 8 of *A System of Architectural Ornament*).

Sullivan's idea of the seed germ as the font of life was predicted even more emphatically by Colling than by Ruprich-Robert. "Most trees, shrubs and plants," he wrote, "when raised from seed throw up two leaves, from between which issue a bud, which contains the embryo of the leaves and stalk forming the plant." This metamorphosis was not transformed into Sullivan's mystical vision, although Colling did maintain that, "Each separate leaf-bud in a tree or plant is a germ of a perfect individual," from

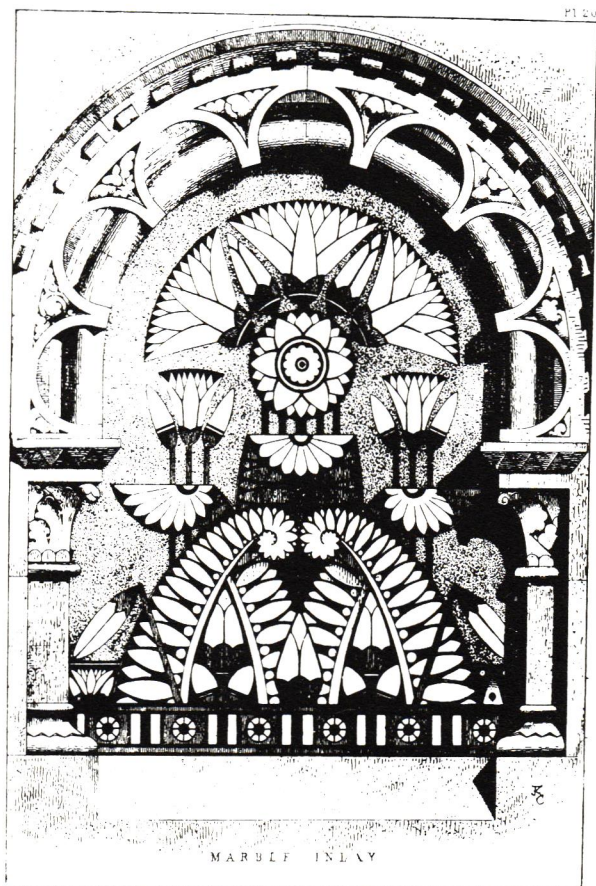
which new individuals evolved. Colling then described the varieties of branching which contained the implicit dynamism of transforming Nature.⁴⁹ He wrote:

Literal translation from nature will never form architectural ornament . . . In the treatment of foliage for the purpose of art, it must more or less be made geometrical, and arranged with symmetry in accordance with its situation and purpose. One of the first things to be studied is the arrangement of branches which constitute the leading lines. These form the skeleton upon which the whole is formed, and they should be made such as will best harmonize or contrast with the architectural lines which surround the composition . . . the forms of the leaves and the flowers have to be considered, and to be altered or adapted from nature as circumstances require . . .⁵⁰

Without his poetry Colling predicted Sullivan's thought processes when the latter wrote, "The

⁴⁹ *Ibid.*, p. 107.

⁵⁰ *Ibid.*, p. 7. Colling's discussion of branches, leading lines and skeletons around which the design is formed anticipates Sullivan's theory of axes. Sullivan wrote, "Note: Any line, straight or curved, may be considered an axis, and therefore a



A marble inlay from *Art Foliage*. Its in-turning leaves and flower are much like the capital from the Jeweler's building.

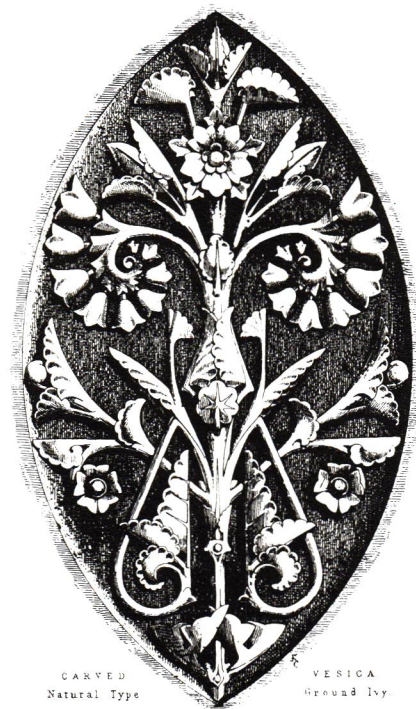
energy comes from the characteristic seed-germ (imagined). The main stalk then differentiates into eight specialized leaf forms which in turn differentiate. There being no limit to character-expression, this design lies within the field of romance."⁵¹

Like Ruprich-Robert and Sullivan,⁵² Colling dis-

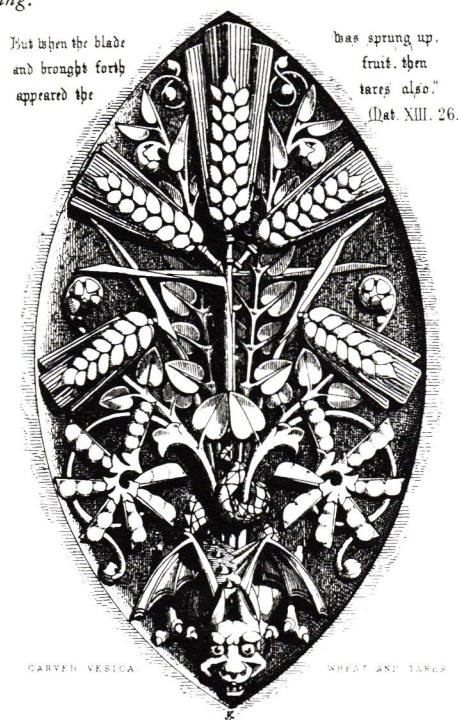
container of energy, and a directrix of power. There is no limit to variations or combinations, or to the morphology possible. The main axis (of which the axis of the seed-germ is taken as the primal type) may become secondary in development: A secondary axis may dominate all. Axes may be expanded, restrained, combined, subdivided, made rigid or plastic, or mobile or fluent in every conceivable way. They may be developed inorganically or organically; They may be developed as stolid, or filled with life-impulse. They may be dramatized from the heavy and ponderous to the utmost delicacy of rhythm, the most subtle palpitations of life. But: That all this be taken from the realms of the transcendental and brought into physical, tangible, even psychic reality, requires that the spirit of man breathe upon ideas the breath of his living powers that they stand forth, created in his image, in the image of his wish and will, as demonstrations of man's ego power." Sullivan, *op. cit.*, *A System*. . . , Text to Plate 5.

⁵¹ *Ibid.*, Text to Plate 15.

⁵² Sullivan, *op. cit.*, *Kindergarten Chats*. . . , p. 189.



A design by Colling exhibits crisp but rounded edges of the type found in Sullivan's early work as in the Jeweler's building.



A composition from *Art Foliage*. Its spiky complexity invokes Plate 8 of *A System of Architectural Ornament* and the capitals of the Wainwright building.

liked the archaeological pedantry of nineteenth century architectural education. He also felt that inspiration and discernment were lacking. He wrote:

If instead of confining our young men to a few selected copies from the antique, in the drawing of which they seem to vie with each other in the production of wiry outlines, they were given some surface to decorate, or some feature to ornament upon natural principles, it would call forth their own thoughts and energies. By which, under proper supervision to direct them, to commence with the most simple forms of composition, they would be gradually led to analyze the various lines which have been hitherto used in art, and by fresh reference to nature, to learn how to improve, alter or adapt them to fresh compositions. By careful training thus, in actual design, without embarrassing them so much with neatness of drawing or delicacy of shading, the eye would become educated to form and at length arrive at the power of detecting that which is good, and separating it from that which is bad, a power which is far more valuable than acquired skill of manipulation and finish in drawing.⁵³

Frederick Hulme's book, *Principles of Ornamental Art*, was a rather more straight forward history of ornament. It did, nevertheless, bring forth a few points which anticipated Sullivan. He too felt that geometry was the basis of all good ornament. From it comes a disciplining and abstraction of nature. Hulme did not foreshadow the explosive creativity of Sullivan, but he did speak glowingly of two styles often used by Sullivan — the Celtic and the Islamic.

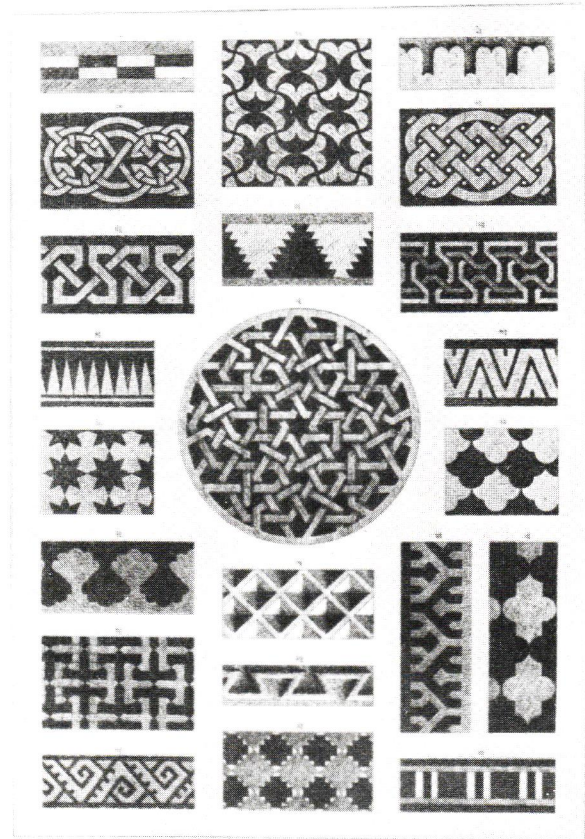
In a quarter inch of the *Book of Kells* one might find, with the aid of a magnifying glass, "... one hundred and fifty-eight interlacings of a white line on a black ground, all unfailingly correct in their alternately over and under interlacing, the whole faultlessly true in curve, the very perfection in this direction of human work." He also praised the intricacy of Moorish ornamental design.⁵⁴

None of the above theorists were overly concerned with the relationship of ornament to the whole of the building. This, however, was of great concern to Edward Lacy Garbett. Jenney was quite taken with this author and quoted him in his own book, *Principles and Practice of Architecture*. Sullivan was therefore certainly aware of his work.

Some of Sullivan's attitudes resembled those of

⁵³ Colling, *op. cit.*, p. 76.

⁵⁴ Frederick Edward Hulme, *Principles of Ornamental Art*, London, no date (Library of Congress copy has a penciled date of 1875), pp. 2 and 113.



A page from Hulme's *Principles of Ornamental Art* illustrating Celtic and Islamic designs.

Garbett. Each appreciated ornament and each felt that it must grow out of structure. Garbett saw the highest form of beauty as "fitness" just as Sullivan understood the interrelationship of form and function.⁵⁵ This might be achieved by avoiding ornament. Sullivan wrote:

... I should say that it would be greatly to our aesthetic good if we could refrain entirely from the use of ornament for a period of years, in order that our thought might concentrate acutely upon the production of buildings well formed and comely in the nude.⁵⁶

In this way the architect could avoid the "vandalism" of the contemporary scene. So Garbett could write, "Decoration can never give or increase the expression of unselfishness." Indeed, "positive beauty" has been achieved through the absolute elimination of ornament.⁵⁷

⁵⁵ Sullivan, *op. cit.*, *Kindergarten Chats*, ..., p. 42.

⁵⁶ *Ibid.*, "Ornament in architecture," p. 187. This was also the attitude of Jenney who felt that ornament was "precious" and therefore had to be used "sparingly." Theodore Turak, "The École Centrale and Modern Architecture: The Education of William Le Baron Jenney," *Journal of the Society of Architectural Historians*, XXIX, 1970, p. 47.

⁵⁷ Edward Lacy Garbett, *Rudimentary Treatise of the Principles of Design*, London, 1850, pp. 14-15.

The word poetry emerges in the writings of both authors. Garbett viewed architecture in ascending levels running from "politeness" through "beauty" and "expression" culminating in "poetry." The poetic not only serves and delights man but, "exalts and improves his mind." To reach this ecstatic state ornament must be considered. A well proportioned building was not enough. To Sullivan the unadorned mass had limitations. He stated that, "We feel intuitively that our strong, athletic and supple forms will carry with natural ease the raiment of which we dream, and that our building thus clad in a garment of poetic imagery, half hid as it were in choice products of loom and mine, will appeal with redoubled power, like a sonorous melody overlaid with harmonious voices."⁵⁸

Garbett divided architectural forms into five categories, "according to degrees of contrast and gradation" which spanned the range from forceful to delicate. These were:

- I Rectilinear and regular forms.
- II Rectilinear and oblique-angled forms.
- III Curvilinear forms without contrary flexures.
- IV Curvilinear forms with contrary flexures (or those composed of curves).
- V Curvilinear forms with natural contrary flexures (or those in which the same equation continues throughout).⁵⁹

This diversity is somewhat difficult for a twentieth century mind to follow, but Garbett claimed, with some justification, that it was basic to both nature and art. The supporting and structural parts of a building must be, "direct angular lines because in such parts we require stability and strength." The lesson is derived directly from nature where one finds the juxtaposition of strong and delicate. A stem and branches are either in "straight or angular lines." As one proceeds upward and to the extremities he finds increasing complexity of shapes and a predominance of the curvilinear in foliage and young shoots. Or, as he summed it up:

It may be taken, then, as a principle hardly admitting to question, that as in nature, so in the graver and more forcible variations of form should in every case prevail most in the ruling and structural parts of a work; and that the more elegant varieties should find their place in the ornamental details.⁶⁰

Also important in the determination of ornament was the nature of the building. A building of lighter

⁵⁸ Sullivan, *op. cit.*, "Ornament in Architecture," p. 187. Garbett, *op. cit.*, p. 32.

⁵⁹ Quoted in *Principles and Practice of Architecture*, by William Le Baron Jenney, Chicago, 1869, pp. 9-10.

⁶⁰ *Ibid.*, pp. 9-10.

destination might receive a generally more ornamental treatment than a more imposing one. The conclusions are not as important as the flavor of the philosophy itself. It stated that a structure must move from the angular to the curvilinear, from the inorganic to the organic, from the inert to the vital. It reflects the mental processes of the other authors we have discussed. Deprived of his verbal pyrotechnics and emotive exaggerations it is not dissimilar from Sullivan's attitudes. Sullivan took inert forms, the frame of a building or a basic geometric shape and enlivened them by the application of flowing curvilinear motifs. Sullivan's own words seem only to be elaborations of Garbett's thoughts:

... ornament ... should appear ... as though it had come forth from the very substance of the material and was there by the same right that a flower appears amid the leaves of its parent plant ... It follows then that a certain kind of ornament should appear on a certain kind of structure, just as a certain kind of leaf must appear on a certain kind of tree ... So, an ornament or scheme of organic decoration befitting a structure composed on broad massive lines would not be in sympathy with a delicate and dainty one.⁶¹

Finally there existed a common attitude regarding the future of architecture. To Sullivan, "... the Greek knew the statics, the Goths the dynamics of art, but neither suspected the mobile equilibrium of it ..."⁶² Each style, the classic and the Gothic was limited. It remained for the modern architect to combine the static and dynamic, the intellectual and emotional to create a new architecture.

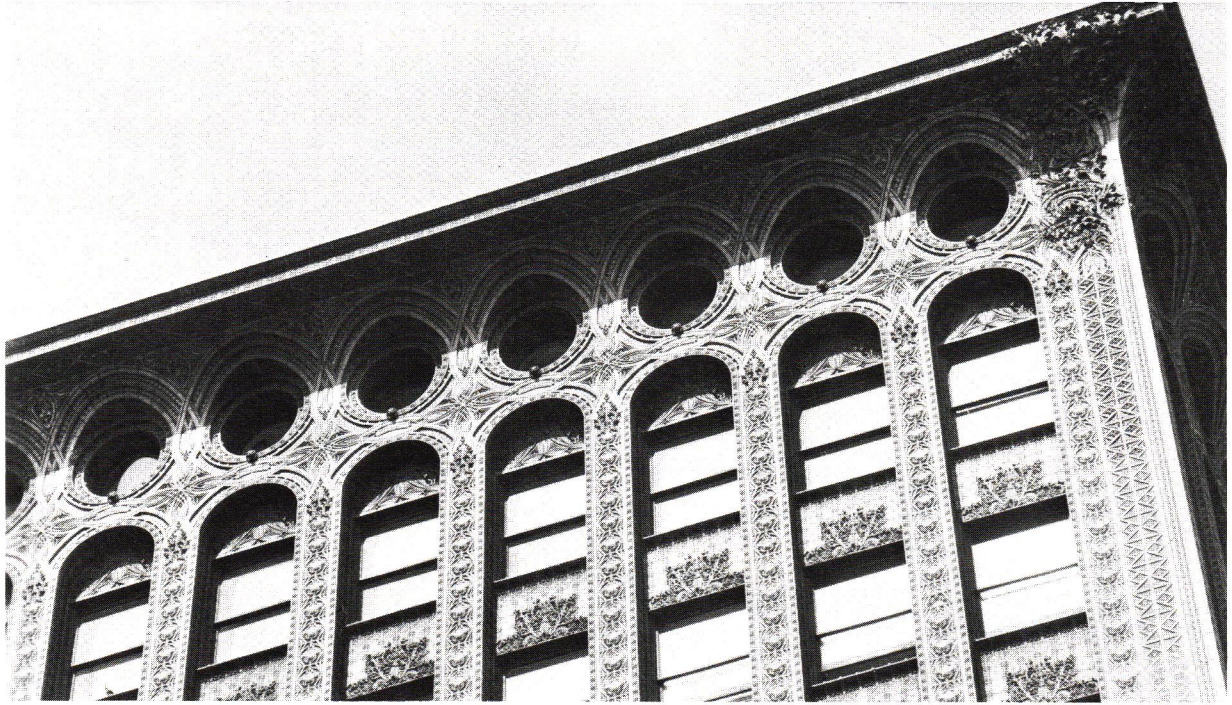
Garbett was more physical than metaphysical. His analysis was based upon structural systems but the approach was much like that later developed by Sullivan. The Greeks perfected post and lintel and the Goths arcuated architecture. Each expressed "constructive unity" in which a complete union existed between the aesthetic and structural systems. A third structural technique based upon tension had only just been evolved and was not yet expressed:

But though there are three styles of construction, there have been only two systems of architecture — only two styles possessing constructive unity, the Greek and the Gothic. The third constructive principle has yet to be elaborated into a system. The two systems are past and dead ... the third is the destined architecture of the future.⁶³

⁶¹ Sullivan, *op. cit.*, "Ornament in Architecture," p. 189.

⁶² Sullivan, *op. cit.*, "Emotional Architecture as compared to Intellectual," *Kindergarten Chats*, ..., p. 200.

⁶³ Garbett, *op. cit.*, p. 135.



No building could more exemplify Garbett's principles than the Guaranty. Allen for HABS.

One need only study such structures as the Troesch (1884) and the Guaranty (1894-5) buildings to see that Sullivan put many of Garbett's principles to work.

Sullivan did not invoke diety as did Ruprich-Robert and Colling. He sought an architecture for a world which was man centered and devoid of "superstition."⁶⁴ Yet his approach had virtually nothing to do with the humanism of the Renaissance tradition. It was closer to that ethos which emerged from the forests of northern Europe in the fourth and fifth centuries with the Barbarians. Earth, nature and man could be seen in a constant metamorphosis.⁶⁵ Sullivan was of an age which saw this attitude given scientific foundation through the acceptance of Darwinism.

Sullivan was also heir to the New England transcendentalism of his youth. Robert Shaffer went into some detail regarding the architectural thought of Emerson and his circle. To Emerson, the soul was subservient to the universal mind (God). Art and architecture, creations of the soul, must be subservient to nature, another manifestation of the universal mind. Being thus subject to nature, art must conform to nature's laws. One cannot build as

64 Louis Sullivan, "Man Search," written in 1905 and reprinted in *The Testament of Stone*, Maurice English, editor, Northwestern University, 1963. Sullivan wrote, "There must be no let-up, no hesitancy, no bashfulness, no timidity, no fear of man or God, no superstition concerning man or God — but one, single, fixed reserve to search all, to know all, to bring all into the open, to search man to the core, to ascertain its value, to cast aside that which is worthless, to cherish that which is of genuine value and worth, here and now, for the good of man today, and for the good of man to come." p. 182.

65 *Ibid.*, "Man and the Infinite," pp. 111-116.

one desires but as one must. It was futile to imitate dead civilizations, "You must exercise your genius in some form that has essential life now . . ."⁶⁶

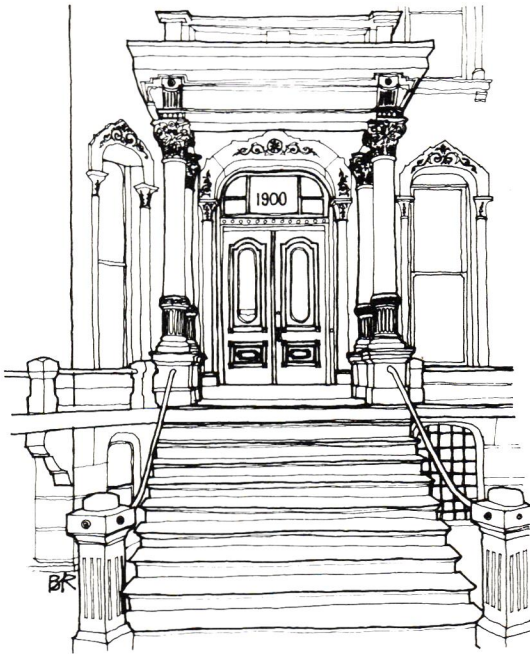
Sullivan admitted such influences as Walt Whitman and the botanists. Consciously or unconsciously he tried to give the impression that he was working from primal sources and not from other architects or architectural theorists. But Sullivan's genius was much like Raphael's or Manet's. He could absorb a vast array of ideas, make them his own, and create impressive and original works of art and architecture. His sources were many and complex.

Paul Sprague, in his study of the evolution of Sullivan's ornament, pointed out that it is difficult to trace the ancestry of his designs. This is indeed true and the sources mentioned here were only some of the catalytic agents at work. Sullivan's contemporary Irving K. Pond justly noted, "He was more susceptible to outside influences than many of his admirers think or that he himself knew. But Louis Sullivan was selective in his nature and chose . . . that to which his innate nature responded."⁶⁷

Sullivan did not create his magnificent art out of a void. His doctrines of art and architecture, his search for the origins of forms in nature and his pleas for architectural expression bearing relevance to the times have their roots firmly planted in the nineteenth century.

66 Robert Shaffer, "Emerson and His Circle: Advocates of Functionalism," *Journal of the Society of Architectural Historians*, VII, 1948, p. 18. Bob Shaffer has been my colleague and friend at The American University for the past nine years. He has just retired.

67 Paul E. Sprague, *The Architectural Ornament of Louis Sullivan and His Chief Draftsmen*. Doctoral Dissertation, Princeton University, 1968, p. 49 and Irving K. Pond, "Louis Sullivan's 'Autobiography of an Idea,'" *The Western Architect*, XXXIII, 1924, p. 67.



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Preview

The first issue of Volume XII of *The Prairie School Review* will concern the influence of the Prairie School of Architecture in Utah. The article has been prepared by Professor Peter Goss.

- Shaffer, Robert. "Emerson and His Circle, Advocates of Functionalism," *SAH Journal*, (July-December, 1948).
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